

COPY

VIRGINIA:

IN THE CIRCUIT COURT FOR THE CITY OF RICHMOND  
JOHN MARSHALL COURTS BUILDING

-----x  
PHILIP MORRIS COMPANIES, INC., et al.,

Plaintiffs,  
-against-

At Law No.  
760CL94X  
00816-00

AMERICAN BROADCASTING COMPANIES,  
INC., et al.,

Defendants.  
-----x

June 30, 1995  
10:04 a.m.

HIGHLY CONFIDENTIAL - TRADE SECRET

Continued Videotaped Deposition of DAVID  
ERNEST MERRILL, taken by Defendants, pursuant to  
Subpoena, at the offices of McGuire Woods Battle  
& Boothe, Esqs., 901 East Carey Street, Richmond,  
Virginia before Lee A. Bursten, a Registered  
Professional Reporter and Notary Public within  
and for the Commonwealth of Virginia.



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REPORTING CORP

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09:58:46

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2058459479

## ERRATA SHEET

Corrections or changes to the deposition testimony of:

DAVID ERNEST MERRILL - Volume 2

Page	Line	Correction
195	10	From "and" to "to"
199	19	Before "What" add "That's fine."
200	16	Change "if I went" to "whether I went"
200	16	From "if" to "whether"
209	18	Change "Q." to "A."
209	20	Change "A." to "Q."
220	22	From "precede" to "preceded"
224	11-12	From "it refers to there's" to "one is referring to it as"
227	4	Add "obtained" after "nicotine"
227	4	After "nicotine" add "obtained"
231	17	Change "this" to "there"
232	14	After "That's right." add "That's right. That's right."
232	14	After "That's right. That's right. That's right." add "WITNESS: That's what I thought."
232	14	From "That's --" to "That's right."
232	14	From "that was" to "That was"
232	16-17	Delete "on a" ?
232	18	Change "that's my answer." to "I was answering your question."
232	18-19	From "That's my answer. On a regular basis." to "I was answering your question. On a regular basis, they're never done."
232	19	Add "they're never done" after "basis."
238	23	Before "entitled" add "It's"
238	23	Change "456789" to "45"
238	23	From "456789," to "45."
240	14	Change "I left" to "I'd left"
241	6	Place quotation marks around "Weigan evaporator run on RLBTW."

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*David Ernest Merrill*  
David Ernest Merrill

# ERRATA SHEET

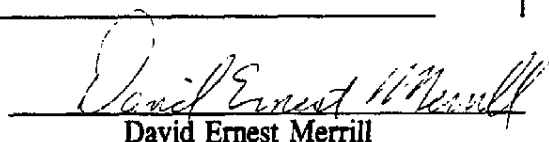
2

Corrections or changes to the deposition testimony of:

David Ernest Merrill - Volume 2

Page	Line	Correction
241	6	After "the" add "document."
241	8	From "this" to "that"
243	5	Insert "that" between "years" and "I"
247	19	Change "I understand" to "what you mean by"
248	4	Insert "soluble" between "remaining" and "---"
250	10	Omit "Yes,"
251	12	Change "fertilizing" to "fertilizer"
251	12	From "fertilizing" to "fertilizer"
259	23	After "incoming" delete "new"
259	23	After "with" add "new"
259	23	Insert "new" between "with" and "batches"
264	7	Before "to" add "I'd like"
270	22	Change "raw" to "dry"
272	8	From "Whom" to "Where" <sup>7</sup> / <sub>6</sub>
272	8	From "MR. KILLORY:" to "MR. NUNLEY:"
272	8	Omit "MR. KILLORY:"
272	10	After "answer" add "was that "I have --""
282	5	From "Variation was" to "Variations of up to"
285	11	Change "They" to "it"
290	22	Change "1983" to "1993"
291	6	From "Take" to "Could you take"
291	13	After "stationery" add "on which it's printed"
291	14	Change "1983" to "1993"
291	23	After "to" add "training and"
291	23	Change "things like" to "training and"
291	23	Delete "things like"

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David Ernest Merrill

# ERRATA SHEET

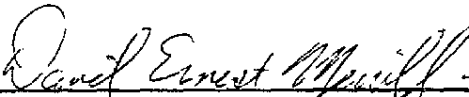
3

Corrections or changes to the deposition testimony of:

David Ernest Merrill - Volume 2

<u>Page</u>	<u>Line</u>	<u>Correction</u>
292	16	Add "I think." after "questions."
293	6	Change "regs" to "regulations"
293	25	From "next" to "second"
297	3	Change "flue" to "through"
298	2	Change "CL" to "it"
304	6	Change "type" to "tight"
309	22	Before "I" add "Takasago --"
314	13	Change "fine" to "fibers"
320	4	From "T. Estes" to "B. Estes"
322	12	Omit "It means"
322	13	From "measure" to "pressure"
325	12	From "in" to "to."
325	12	Change "in" to "to"
328	3	Omit "the"
328	12	Delete "of"
328	12	From "looking at" to "reading from"
329	19	Insert "82" between "127981," and "production"
329	19	After "127981" add "to 82"
330	2	After "any" add "other"
332	8	Change "your" to "our"
332	8	From "your" to "our"
332	11	Change "as part" to "has part"
334	15	Add "Let me" before "be clear."
337	18	After "and" add "all the"
337	18	Insert "all the" between "and" and "other"
344	10	From "in" to "based on"

2058459481

  
David Ernest Merrill

# ERRATA SHEET

4

Corrections or changes to the deposition testimony of:

David Ernest Merrill - Volume 2

<u>Page</u>	<u>Line</u>	<u>Correction</u>
346	4	From "that that" to "that"
346	9	Change "have it at" to "have at"
347	12	Change "several" to "the same"
359	11	Change "where we are" to "were we"
374	24	From "those" to "most"
375	6	After "a" add "tape"
376	12	Change "certain" to "several"
376	12	From "certain" to "several"
378	18	From "seconds" to "sentences"
382	25	From "subsequent" to "substantive"

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David Ernest Merrill

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10:03:56 2 THE VIDEO OPERATOR: This is  
10:04:00 3 videotape number 4. Today is June 30th, 1995.  
10:04:04 4 This is the continuation of the deposition of  
10:04:06 5 Mr. Merrill. The time on the screen is  
10:04:10 6 10:04:07. You're on the record.

7 D A V I D E R N E S T M E R R I L L,  
8 resumed, having been previously duly sworn, was  
9 examined and testified further as follows:

10 CONTINUED EXAMINATION

11 BY-MR. KILLORY:

10:04:14 12 Q. Mr. Merrill, you understand you're  
10:04:16 13 still under the same oath you took yesterday;  
10:04:16 14 correct?

10:04:18 15 A. Yes, I do.

10:04:18 16 Q. Is there anything in your testimony  
10:04:24 17 yesterday that you've thought about overnight and  
10:04:26 18 want to correct or change?

10:04:28 19 A. No.

10:04:30 20 Q. Yesterday we had some discussion  
10:04:34 21 about the FDA tour that you and Mr. Burnley  
10:04:38 22 conducted on March 22nd and 23rd, 1994. Do you  
10:04:40 23 recall that discussion?

10:04:40 24 A. Yes.

10:04:46 25 Q. Taking me through the sequence of the

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2058459483

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10:04:48 2 tour, we left off at a session in the conference  
10:04:52 3 room of the operations center on the morning of  
10:04:54 4 the 22nd, and you gave me a description of what  
10:04:56 5 went on there, an overview of things.

10:05:00 6 Could you tell me what happened next  
10:05:02 7 after that session in the conference room on the  
10:05:02 8 morning of the 22nd?

10:05:10 9 A. Well, they asked us to leave the room  
10:05:16 10 ~~and~~<sup>to</sup> talk for a little while. When they asked us  
10:05:18 11 back in the room they wanted to break up into  
10:05:22 12 about six groups, but there weren't but two of  
10:05:28 13 us, so we broke up into two groups. One group  
10:05:30 14 went with Harold and one group went with me.

10:05:34 15 Q. What was their request for the six  
10:05:36 16 groups, to do what?

10:05:44 17 A. The only thing that I can recall is,  
10:05:48 18 other than the tours that we took them on, was  
10:05:54 19 they wanted to interview some of the people in  
10:05:56 20 the different areas.

10:05:58 21 Q. And what different areas?

10:06:02 22 A. I don't remember if they specifically  
10:06:10 23 said these areas. As I recall, they basically  
10:06:12 24 wanted to have one group learning the process and  
10:06:16 25 one group just doing straight interviews.

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2058459484



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10:06:22 2 Q. Interviews of people from different  
10:06:24 3 parts of the cigarette manufacturing process?

10:06:28 4 A. Different parts of the whole  
10:06:30 5 operation.

10:06:32 6 Q. Did they identify particular  
10:06:34 7 individuals they wanted to speak with?

10:06:36 8 A. Not that I recall, no.

10:06:40 9 Q. Did they conduct interviews?

10:06:42 10 A. The group that was with me had an  
10:06:46 11 opportunity to interview several of the employees  
10:06:48 12 on the tours.

10:06:52 13 Q. From the conference room you took  
10:06:54 14 half of the group and Mr. Burnley went with the  
10:06:56 15 other half of the group; is that correct?

10:06:58 16 A. That's correct.

10:07:00 17 Q. And where did you go with the group?  
10:07:02 18 What happened next with the group that you were  
10:07:02 19 accompanying?

10:07:08 20 A. I don't remember the exact sequence,  
10:07:10 21 but we went to the blended leaf plant, the  
10:07:16 22 reconstituted leaf plant, and the primary  
10:07:22 23 processing part of the manufacturing center.

10:07:26 24 Q. Did the FDA people request tours of  
10:07:28 25 those facilities, or was it your decision to take

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10:07:32 2 them to those facilities?

10:07:34 3 MR. NUNLEY: Objection as to form.

10:07:34 4 A. I don't recall.

10:07:42 5 Q. Did they -- I asked earlier whether  
10:07:44 6 they requested interviews for particular people.  
10:07:46 7 Did they request interviews for people holding  
10:07:48 8 particular positions at Philip Morris?

10:07:50 9 A. I don't really recall.

10:07:54 10 Q. The first tour was of the BL  
10:07:56 11 facility; is that correct?

10:08:00 12 A. No, as I said a minute ago, I don't  
10:08:02 13 recall the exact order, but we did cover those  
10:08:04 14 three particular facilities.

10:08:10 15 Q. At the BL facility.

10:08:14 16 A. Let me back up and correct myself. I  
10:08:18 17 only took them to the blended leaf plant and the  
10:08:20 18 reconstituted leaf plant.

10:08:20 19 Q. Did someone else take them to the  
10:08:22 20 primary processing facility?

10:08:24 21 A. Harold took them to primary  
10:08:26 22 processing, the other half of the group.

10:08:30 23 Q. While you were taking your half of  
10:08:32 24 the group to the BL and the RL facilities, do you  
10:08:36 25 know where the other half was with Mr. Burnley?

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2058459486

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10:08:40 2 A. I know they went to primary  
10:08:42 3 processing. I'm not sure where they went from  
10:08:44 4 there.

10:08:48 5 Q. At the BL plant, what happened?

10:08:50 6 MR. NUNLEY: Objection as to form.

10:09:00 7 A. Well, we took them on a tour of the  
10:09:00 8 facility.

10:09:02 9 Q. In the course of that tour did they  
10:09:04 10 ask questions about the BL process?

10:09:06 11 A. Yes, they did.

10:09:08 12 Q. Do you recall what questions they  
10:09:10 13 asked about BL?

10:09:10 14 A. Not specifically, no.

10:09:12 15 Q. Do you have a general recollection of  
10:09:14 16 the questions at the BL facility?

10:09:18 17 A. They would ask questions like what do  
10:09:22 18 you do here, what do you do there, what's this,  
10:09:22 19 what's that.

10:09:26 20 Q. And did you conduct the tour?

10:09:26 21 A. Yes, I did.

10:09:28 22 Q. Did anyone assist you from Philip  
10:09:30 23 Morris in conducting the tour?

10:09:34 24 A. I believe so, but I'm not sure.

10:09:36 25 Q. Do you know which individuals?

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10:09:40 2 A. Not specifically, no.

10:09:44 3 Q. You mentioned that they did do some  
10:09:48 4 interviewing. Did they do any interviewing in  
10:09:50 5 the course of the BL tour beyond the questions  
10:09:50 6 they asked of you?

10:09:52 7 MR. NUNLEY: Objection as to form. I  
10:09:54 8 think the use of the term "interview" is vague.  
10:09:56 9 I think it ought to be defined for the record.

10:09:58 10 MR. KILLORY: I believe it's a term  
10:10:00 11 the witness used in his earlier response.

10:10:00 12 Q. What did you mean --

10:10:02 13 MR. NUNLEY: Excuse me. I don't know  
10:10:04 14 whether the witness and you are on the same  
10:10:08 15 wavelength as to what the word "interview"  
10:10:10 16 means. I want the record to be clear. I suggest  
10:10:20 17 you ask the witness what he means by the term  
10:10:20 18 "interview."

10:10:20 19 Q. *That's fine* What did you mean when you referred  
10:10:20 20 to interviews that the FDA people had with Philip  
10:10:22 21 Morris employees?

10:10:22 22 A. They actually asked questions of  
10:10:22 23 them.

10:10:26 24 Q. That's my understanding as well. Of  
10:10:34 25 which individuals did they ask questions?

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10:10:48 2 A. I don't remember specifically at the  
10:10:50 3 BL plant.

10:10:50 4 Q. You don't remember any of the people  
10:10:52 5 that they asked questions of?

10:10:54 6 A. I'm trying to remember who was there  
10:11:00 7 with us. And I'm just not sure.

10:11:06 8 Q. Was the next step in the process the  
10:11:08 9 tour of the RL facility? Is that correct?

10:11:10 10 A. Yes.

10:11:12 11 MR. NUNLEY: Next step in which  
10:11:12 12 process?

10:11:14 13 MR. KILLORY: Process of conducting  
10:11:14 14 the FDA tour.

10:11:16 15 A. Yes. As I said earlier, I don't know *whether*  
10:11:18 16 ~~if~~ I went to the RL plant first or the BL plant.

10:11:20 17 Q. At the RL plant, did you also conduct  
10:11:24 18 a tour of the physical plant, the facility?

10:11:26 19 A. Yes, I did.

10:11:28 20 Q. Were there any parts of the facility  
10:11:30 21 that they specifically, the FDA people  
10:11:32 22 specifically requested to see?

10:11:36 23 A. Not that I recall, no.

10:11:40 24 Q. Do you recall what questions they  
10:11:42 25 asked at the RL facility?

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2058459489

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A. Again, they asked questions similar to the ones that they asked at the BL plant. What do you do here, what goes on there.

Q. Nuts and bolts type questions about how the operation worked?

MR. NUNLEY: Objection as to form.

A. Basically they were trying to understand what we were doing.

Q. At the RL plant, did they interview any individuals other than yourself?

A. One I can remember.

Q. Who was that?

A. Mickey Annamanthadoo.

Q. And what was the subject matter of that interview?

A. They were asking Mickey about the additives to the liquid tobacco.

Q. Specifically which additives did they ask about?

A. As I recall, all of them.

Q. And by "additives," what do you mean?

A. Flavorings, humectants and other materials added to the liquid tobacco before it's

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2058459490

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2 applied back to the base web.

3 Q. Do you have any recollection any more  
4 specifically what their questions were with  
5 regard to additives?

6 A. They asked if any of them contain  
7 nicotine.

8 Q. And did Mr. Annamanthadoo respond?

9 A. Yes, he did.

10 Q. What was his response?

11 A. I don't know what his exact response  
12 was.

13 Q. In substance, what was his response?

14 A. In substance I believe his answer was  
15 no. He did not know.

16 Q. His answer was no, or he did not  
17 know?

18 A. No, he did not know. That was his  
19 answer to the FDA.

20 Q. Did you participate in the discussion  
21 about additives with the FDA people?

22 A. No, I did not.

23 Q. Did anyone else at the RL facility  
24 participate in discussions about additives, the  
25 FDA people?

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2058459491

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10:14:26 2 A. Not that I recall, no.

10:14:28 3 Q. To the best of your recollection, no  
10:14:30 4 one at that time provided an answer to the  
10:14:32 5 question about whether the additives contain  
10:14:34 6 nicotine or not?

10:14:38 7 A. The additives at Park 500?

10:14:40 8 Q. That's right.

10:14:40 9 A. No.

10:14:42 10 Q. I believe you testified yesterday  
10:14:46 11 that subsequent to the tour, you've had no  
10:14:48 12 contact with anyone at the FDA; is that correct?

1 14:50 13 A. That's correct.

10:14:52 14 Q. Do you know whether subsequent to  
10:14:56 15 that conversation at the RL facility regarding  
10:14:58 16 the additives added in the RL process, whether  
10:15:02 17 anyone from Philip Morris answered the question  
10:15:04 18 regarding whether nicotine was in the additives  
10:15:06 19 added at the RL facility?

10:15:08 20 A. Yes.

10:15:10 21 Q. When was that?

10:15:18 22 A. Wednesday the 23rd of March, 1994.

10:15:20 23 Q. And who provided that answer?

10:15:26 24 A. That answer was provided by David  
1 15:26 25 Williams.

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2058459492



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10:15:30 Q. Who is David Williams?

10:15:36 A. David Williams works in research and  
10:15:36 development.

10:15:42 Q. Had you contacted him following the  
10:15:44 discussion on the 22nd?

10:15:48 A. No, I did not.

10:15:48 Q. Do you know if someone else did  
10:15:54 contact Mr. Williams with regard to the subject  
10:15:56 matter of the additives?

10:15:58 A. I'm not sure I understand. Someone  
10:16:02 at Park 500 or someone in general?

10:16:06 Q. Someone from Philip Morris, following  
10:16:08 up on the discussion that you had with the FDA,  
10:16:12 did someone contact Mr. Williams, someone from  
10:16:14 Philip Morris contact Mr. Williams?

10:16:16 A. I believe so, yes.

10:16:18 Q. Who would that have been, do you  
10:16:18 know?

10:16:18 A. No, I do not.

10:16:22 Q. I'm just trying to determine the  
10:16:26 chain, from questions asked by the FDA of you and  
10:16:32 of Mr. Annamanthadoo that were answered the next  
10:16:34 day by Mr. Williams, how it came to be that  
10:16:36 Mr. Williams was asked to give those answers.

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2058459493

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10:16:38 2 Do you know how it was that

10:16:42 3 Mr. Williams was told the FDA had been asking  
10:16:42 4 questions?

10:16:44 5 MR. NUNLEY: Asked and answered. He  
10:16:46 6 said he didn't know.

10:16:48 7 Q. Is that your testimony?

10:16:48 8 A. Yes, sir.

10:16:50 9 Q. Did you have any conversations with  
10:16:54 10 anyone after the conversation with the FDA people  
10:16:56 11 at the RL plant on the subject of additives in  
10:16:58 12 the RL process?

10:17:02 13 A. Could you just read that back?

10:17:04 14 Q. Sure. Did you have any conversations  
10:17:08 15 with anyone after the conversations you had with  
10:17:12 16 the FDA people at the RL plant on the subject of  
10:17:12 17 additives in the RL process?

10:17:18 18 MR. NUNLEY: Objection as to form.  
10:17:22 19 Do you mean for the follow-up meeting on the 23rd  
10:17:24 20 with the FDA?

10:17:24 21 MR. KILLORY: No, I mean at any time.

10:17:26 22 MR. NUNLEY: Objection to the extent  
10:17:28 23 you're asking beyond March 24, '94.

10:17:50 24 A. Prior to the 24th, I don't recall.

10:17:52 25 Q. On the 24th?

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2058459494

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10:17:54 2 A. Or the 24th itself, I don't recall.

10:17:56 3 Q. So you don't recall any discussion  
10:18:00 4 that you had on the subject of additives with the  
10:18:04 5 FDA people or the people at Philip Morris in the  
10:18:06 6 23rd through the 24th time frame other than the  
10:18:10 7 conversation at the RL plant to which you've  
10:18:10 8 already testified?

10:18:12 9 MR. NUNLEY: Objection as to form.

10:18:12 10 A. That's correct.

10:18:22 11 Q. Besides David Williams -- I'm sorry,  
10:18:28 12 besides Mickey Annamanthadoo, did the FDA people  
18:30 13 speak with any other Philip Morris employee at  
10:18:32 14 the RL facility during that tour on the 22nd?

10:18:40 15 A. Not that I can recall, no.

10:18:46 16 Q. How long was the tour of the RL  
10:18:50 17 facility with the FDA people?

10:18:56 18 A. I don't know specifically.

10:18:58 19 Q. Generally.

10:19:02 20 A. Generally I think it was probably on  
10:19:04 21 the order of about 90 minutes.

10:19:06 22 Q. And how about the BL facility tour?  
10:19:08 23 How long did that last, approximately?

10:19:12 24 A. That was probably on the order of 60  
19:14 25 minutes.

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10:19:18 2 Q. Did anything else happen on the 22nd  
10:19:22 3 in connection with the FDA tour beyond the  
10:19:24 4 session in the conference room that you've  
10:19:26 5 testified to in the morning, the BL tour and the  
10:19:28 6 RL tour?

10:19:32 7 MR. NUNLEY: Objection as to form.

10:19:40 8 A. I believe that's it. I don't  
10:19:42 9 remember any more than that.

10:19:44 10 Q. Do you remember approximately at what  
10:19:46 11 time the FDA tour on the 22nd concluded?

10:19:54 12 A. No, I don't.

10:19:58 13 Q. Did you have any discussions with any  
10:20:04 14 Philip Morris employees regarding the FDA tour on  
10:20:10 15 the 22nd of March, other than the conversation  
10:20:12 16 involving Mr. Annamanthadoo and obviously with  
10:20:12 17 Mr. Burnley?

10:20:16 18 A. Yes, I did.

10:20:18 19 Q. With whom did you have such  
10:20:18 20 discussions?

10:20:24 21 A. Dr. Ken Houghton and legal counsel.

10:20:26 22 Q. Was the conversation with  
10:20:32 23 Mr. Houghton at the same time as the legal  
10:20:34 24 counsel or was that a separate conversation?

10:20:36 25 A. Same conversation.

MANHATTAN REPORTING CORP.

2058459496

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10:20:44 2 Q. Which lawyers, do you know?

10:20:46 3 A. Don't remember their names.

10:20:56 4 Q. Apart from the conversation in which

10:21:04 5 the -- what was the subject matter, let's limit

10:21:06 6 it just to the subject matter of the conversation

10:21:08 7 you had with Mr. Houghton and the lawyer.

10:21:08 8 MR. NUNLEY: You can answer in very,

10:21:16 9 very general terms. If it's about the FDA

10:21:16 10 investigation, that's sufficient.

10:21:16 11 A. It was about the FDA investigation.

10:21:22 12 Q. Any other conversations that you had

10:21:26 13 regarding the FDA tour other than that

10:21:28 14 conversation with Mr. Houghton and company

10:21:30 15 counsel on the 22nd?

10:21:36 16 A. Not that I recall, no.

10:21:42 17 Q. The FDA tour continued on the 23rd of

10:21:44 18 March; is that correct?

10:21:46 19 A. That's correct.

10:21:50 20 Q. When did it recommence?

10:21:52 21 MR. NUNLEY: You mean at what time on

10:21:52 22 March 23rd?

10:21:54 23 MR. KILLORY: That's right.

10:21:58 24 A. I believe the tour started on -- at

10:22:00 25 10:00 on the 23rd.

MANHATTAN REPORTING CORP

2058459497

Merrill - Highly Confidential - Trade Secret

10:22:02 2 Q. And what happened at that time?

10:22:18 3 A. The FDA was toured through the --  
10:22:20 4 toured through the smoking lab.

10:22:22 5 Q. What is the smoking lab?

10:22:28 6 A. The smoking lab is where the FTC  
10:22:30 7 cigarette machines are located.

10:22:40 8 Q. Who accompanied -- how many FDA  
10:22:42 9 representatives? The entire group went on the  
10:22:44 10 tour of the smoking lab?

10:22:46 11 A. I did not go with them so I don't  
10:22:46 12 know.

10:22:52 13 Q. You did not participate in the tour  
10:22:54 14 of the smoking lab?

10:22:54 15 A. That's correct.

10:22:58 16 Q. What was your next contact with the  
10:22:58 17 FDA personnel?

10:23:12 18 Q. *A* Sometime I think early afternoon on  
10:23:14 19 the 23rd.

10:23:20 20 A. *Q* And what happened at that time in the  
10:23:24 21 early afternoon of the 23rd when you met up again  
10:23:24 22 with the FDA personnel?

10:23:36 23 A. Dr. Whidby and Dr. Heretick explained  
10:23:42 24 cigarette construction to the FDA. And David  
10:23:46 25 Williams showed the two chemists that accompanied

MANHATTAN REPORTING CORP.

2058459498

1 Merrill - Highly Confidential - Trade Secret

10:23:52 2 the FDA the constituents of the flavors.

10:23:56 3 Q. When you say Mr. Williams showed them  
10:24:04 4 the constituents of the two flavors, did he make  
10:24:06 5 a presentation in some written form?

10:24:12 6 A. Based on agreements with the --  
10:24:14 7 contractual agreements, David was able to show  
10:24:18 8 them the constituents, but not who they came from  
10:24:24 9 nor the quantity that was in the material. Just  
10:24:26 10 what constituted the material itself.

10:24:30 11 Q. When we're referring to the flavors,  
10:24:32 12 are these the flavor additives in the RL process  
10:24:36 13 that Mr. Williams was discussing?

10:24:42 14 A. I honestly don't know which items  
10:24:46 15 David showed the two lady chemists.

10:24:50 16 Q. In an earlier question I think I  
10:24:52 17 misspoke and I said "two flavors." I meant to  
10:24:54 18 say "the flavors." Do you recall how many  
10:24:56 19 flavors were being discussed with the FDA  
10:24:58 20 personnel by Mr. Williams?

10:25:02 21 A. No, I don't.

10:25:10 22 Q. What was Mr. Williams's answer to the  
10:25:12 23 FDA's question regarding whether there was  
10:25:14 24 nicotine in any of the additives?

10:25:22 25 MR. NUNLEY: Objection as to form. I

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10:25:28 2 think you're confusing the terms "additives" and  
10:25:28 3 "flavors."

10:25:30 4 A. I'm not sure exactly.

10:25:32 5 Q. You had earlier said in your earlier  
10:25:34 6 testimony that the question had been phrased in  
10:25:38 7 terms of additives by the FDA; is that correct?

10:25:40 8 A. Additives at Park 500, that's  
10:25:40 9 correct.

10:25:42 10 Q. And did Mr. Williams answer that  
10:25:46 11 question regarding whether there was nicotine in  
10:25:50 12 the additives at Park 500?

10:25:50 13 A. I have no idea.

10:25:54 14 Q. So you did not hear Mr. Williams --  
10:25:56 15 you don't know whether he answered that  
10:25:56 16 question?

10:26:08 17 A. There was not any discussion. Two  
10:26:12 18 chemists from the FDA looked at the sheets.  
10:26:14 19 Which sheets they looked at, I don't know.

10:26:16 20 Q. Did you ever see those sheets?

10:26:18 21 A. No, I did not.

10:26:20 22 Q. I had thought, and I may be wrong, I  
10:26:22 23 had thought in your earlier testimony you had  
10:26:22 24 said that the question about nicotine in  
10:26:26 25 additives added at Park 500 was posed by the FDA



1 Merrill - Highly Confidential - Trade Secret  
10:26:30 2 during the RL tour and that it was subsequently  
10:26:36 3 answered by David Williams on the 23rd. That is  
10:26:38 4 not correct; is that right?

10:26:46 5 A. Yes, that's probably not correct. I  
10:26:48 6 don't know what Dave specifically showed them at  
10:26:50 7 that meeting in that afternoon.

10:26:52 8 Q. Did you have any conversation with  
10:26:56 9 Mr. Williams on that day regarding his  
10:26:58 10 discussions with the FDA chemists?

10:26:58 11 A. No.

10:27:06 12 Q. Sitting here today do you know  
10:27:08 13 whether Mr. Williams answered the question  
10:27:10 14 regarding whether nicotine was in the additives  
10:27:14 15 at Park 500 to the FDA personnel?

10:27:24 16 A. I'm not really sure how to answer  
10:27:24 17 that question.

10:27:28 18 Q. Do you know whether Mr. Williams  
10:27:32 19 answered the question regarding nicotine posed by  
10:27:34 20 the FDA personnel with regard to the Park 500  
10:27:36 21 additives?

10:27:38 22 A. No, I don't.

10:27:50 23 Q. So you met up with the FDA personnel  
10:27:52 24 following the tour of the smoking lab. Were  
10:27:54 25 there any other intervening events of which you

Merrill - Highly Confidential - Trade Secret

are aware before you met up with the FDA  
personnel in the afternoon of the 23rd?

A. I don't know if there were or not.

Q. You don't know whether they toured  
any other facilities besides the smoking lab on  
the 23rd?

A. No.

Q. Was Mr. Burnley with them on the tour  
of the smoking lab?

A. I don't know who was with them on the  
tour of the smoking lab.

Q. When you met up with them again, when  
you met up with the FDA personnel again on the  
afternoon of the 23rd, what happened at that  
time?

A. We had Dr. Whidby and Dr. Heretick  
there to explain cigarette construction, and  
again, David Williams to go over the flavors.

Q. Anything else happen at that  
session?

A. What do you mean by "anything else"?

Q. Any questions that you can recall  
that were posed by the FDA besides in the context  
of discussions with Dr. Whidby, Dr. Heretick and

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10:29:08 2 David Williams.

10:29:12 3 A. I can't remember any outstanding  
10:29:16 4 questions that they asked at the meeting.

10:29:18 5 Q. Or the subject matter of any of their  
10:29:20 6 questions.

10:29:28 7 A. No.

10:29:34 8 Q. After that session, were there any  
10:29:40 9 other events on the tour? Did you take the FDA  
10:29:42 10 people to any other facilities on the afternoon  
10:29:44 11 of the 23rd? -

10:29:44 12 MR. NUNLEY: Objection. Compound  
10:29:46 13 question.

10:29:52 14 A. After we finished with the meeting in  
10:29:56 15 the conference room the afternoon of the 23rd,  
10:29:58 16 the FDA left.

10:30:00 17 Q. Did you have any discussions at that  
10:30:04 18 time with anyone from Philip Morris about that  
10:30:04 19 day of the FDA tour?

10:30:06 20 A. Yes.

10:30:08 21 Q. With whom did you have such  
10:30:08 22 discussions?

10:30:12 23 A. Dr. Houghton. And our attorneys.

10:30:14 24 Q. Do you remember which attorney?

10:30:14 25 MR. NUNLEY: Asked and answered.

MANHATTAN REPORTING CORP.

2058459503

1 Merrill - Highly Confidential - Trade Secret

10:30:20 2 MR. KILLORY: Different discussion.

10:30:22 3 Q. Let me clarify. Was that the same  
10:30:24 4 discussion you were referring to before? Did you  
10:30:26 5 have more than one conversation with Dr. Houghton  
10:30:28 6 and the Philip Morris attorneys in connection  
10:30:30 7 with the FDA tour?

10:30:32 8 A. Yes.

10:30:34 9 Q. You had a discussion on the 23rd --  
10:30:38 10 the 22nd, at the conclusion of that day's tour,  
10:30:40 11 was my understanding of your prior testimony; is  
10:30:40 12 that correct?

10:30:42 13 A. That's correct.

10:30:42 14 Q. And then you had a subsequent  
10:30:44 15 discussion on the 23rd following the conclusion  
10:30:48 16 of that day's tour.

10:30:48 17 A. That's correct.

10:30:50 18 Q. And was it the same attorney each  
10:30:50 19 time?

10:30:52 20 MR. NUNLEY: Mr. Killory, I object.  
10:30:54 21 What right do you have to know which attorneys he  
10:30:54 22 met with?

10:30:56 23 MR. KILLORY: I want to find out  
10:30:58 24 which counsel he was talking to.

10:30:58 25 MR. NUNLEY: Why is that not

MANHATTAN REPORTING CORP.

2058459504

1 Merrill - Highly Confidential - Trade Secret  
10:31:00 2 protected by the attorney-client --

10:31:02 3 MR. KILLORY: It's not protected.

10:31:02 4 MR. NUNLEY: Why is it of any  
10:31:04 5 relevance in this case?

10:31:06 6 MR. KILLORY: To find out which  
10:31:08 7 attorneys. It's a perfectly permissible  
10:31:08 8 question.

10:31:16 9 A. I don't recall the attorney's name.

10:31:26 10 Q. Mr. Merrill, could you take a look at  
10:31:30 11 what were marked yesterday's Exhibits 8 and 9 to  
10:31:32 12 your deposition, the second from the end and  
10:31:34 13 third from the end of that stack of exhibits in  
10:31:36 14 front of you.

10:32:00 15 Exhibit Number 8 was the draft, the  
10:32:08 16 eighth draft of the "How Cigarettes Are Made"  
10:32:10 17 document which ultimately became the seven-minute  
10:32:14 18 video you testified about yesterday. Do you  
10:32:14 19 recall your testimony?

10:32:14 20 A. Yes.

10:32:20 21 Q. Exhibit Number 9 is a slightly  
10:32:26 22 different version of that same document in what  
10:32:28 23 appears to be more finished form. Yesterday I  
10:32:32 24 believe you testified that you recalled seeing  
10:32:36 25 Merrill Exhibit Number 8 in some form, in some

1 Merrill - Highly Confidential - Trade Secret  
10:32:38 2 draft form; is that correct?

10:32:40 3 A. That's correct.

10:32:44 4 Q. Do you recall seeing Merrill Exhibit  
10:32:48 5 Number 9 in the form in which it's in here?

10:32:48 6 A. No.

10:32:50 7 Q. Do you know whether Merrill Exhibit  
10:32:54 8 Number 9 is the finished script for the  
10:32:56 9 seven-minute video?

10:32:58 10 A. I have no idea.

10:33:02 11 Q. I am correct that you participated  
10:33:06 12 with the folks from Reuter's in the preparation  
10:33:10 13 of the script for the seven-minute video; is that  
14 correct?

10:33:10 15 A. That's correct.

10:33:18 16 Q. I would like to ask you just a couple  
10:33:20 17 of questions about a few of the differences  
10:33:24 18 between Exhibit Number 8 and Exhibit Number 9, if  
10:33:26 19 I could, please, to see if you recall any  
10:33:30 20 discussion with the folks at Reuter's as to the  
10:33:42 21 edits. If you could look at Exhibit Number 8 on  
10:33:50 22 page number 2 of the script, which is PB 114263.

10:33:50 23 (Witness complies.)

10:33:58 24 Q. On the second paragraph in that page  
10:34:02 25 that starts with "The separated water soluble

MANHATTAN REPORTING CORP.

2058459506

1 Merrill - Highly Confidential - Trade Secret  
2 materials," do you see that paragraph?

10:34:06 3 A. Yes, I do.

10:34:08 4 Q. It states that "The separated water  
10:34:12 5 soluble material contains numerous compounds, all  
10:34:16 6 of which existed in and were naturally extracted  
10:34:18 7 from the tobacco material. The water is  
10:34:20 8 partially evaporated, leaving the tobacco  
10:34:24 9 solubles."

10:34:26 10 It then goes on to say, "The solubles  
10:34:28 11 are then mixed with flavorings, preservatives and  
10:34:32 12 humectants which help maintain moisture and  
10:34:34 13 pliability. The tobacco solubles are then  
10:34:36 14 reapplied to the RL sheet."

10:34:40 15 And Exhibit Number 9 --

10:34:42 16 MR. NUNLEY: Objection, Mr. Killory.  
10:34:44 17 Are you going to finish the paragraph?

10:34:46 18 MR. KILLORY: My question is limited  
10:34:52 19 to the words. It's not the -- wait a second,  
10:34:54 20 Chip. If after I ask the question I ask, you  
10:34:56 21 want to say something, that's fine. I'm only  
10:35:00 22 asking one question as to this paragraph and  
10:35:04 23 that's, as to the words "tobacco solubles" that  
10:35:06 24 appears in the portion that I read, appears  
10:35:06 25 twice --

MANHATTAN REPORTING CORP.

2058459507

1 Merrill - Highly Confidential - Trade Secret

10:35:08 2 MR. NUNLEY: My objection is your  
10:35:10 3 question is taking that portion out of context if  
10:35:10 4 you don't complete the paragraph.

10:35:12 5 MR. KILLORY: I'm not taking anything  
10:35:14 6 out of context. It's an exhibit to this  
10:35:16 7 deposition. I'm asking about two words.

10:35:18 8 MR. NUNLEY: The two words --

10:35:20 9 MR. KILLORY: Two phrases.

10:35:22 10 MR. NUNLEY: You chose to read in the  
10:35:22 11 first portion of the paragraph. You chose not to  
10:35:28 12 read in the second portion of the paragraph.

10:35:28 13 MR. KILLORY: Chip, if we're going to  
1 35:28 14 have the same discussion -- there's nothing about  
10:35:28 15 the meaning of this paragraph other than the two  
10:35:30 16 phrases that I'm about to ask about.

10:35:32 17 MR. NUNLEY: I don't care what you're  
10:35:34 18 about to ask about, Mr. Killory. I'm telling you  
10:35:36 19 if you are going to ask questions --

10:35:52 20 MR. KILLORY: "The RL is dried, cut  
21 into lamina sized pieces and is ready to become  
22 part of the tobacco blend. At no point in the  
23 RL, reconstituted leaf process, is additional  
24 nicotine introduced. In fact, the nicotine level  
25 in the finished RL is 20 to 25 percent lower than

MANHATTAN REPORTING CORP.

2058459508



1 Merrill - Highly Confidential - Trade Secret

10:35:52 2 the nicotine level in the raw materials."

10:35:52 3 That's the rest of the paragraph, as  
10:35:56 4 to which I don't have any questions. My question  
10:35:56 5 is limited to two phrases.

10:35:58 6 Q. My question is, Mr. Merrill, in the  
10:36:00 7 otherwise identical version of that same  
10:36:02 8 paragraph that appears at the bottom of the first  
10:36:08 9 page of Merrill number 9, "tobacco solubles" has  
10:36:12 10 been edited to "the solubles" rather than "the  
10:36:14 11 tobacco solubles."

10:36:16 12 MR. NUNLEY: Mr. Killory, I object to  
10:36:18 13 your question because it has as an underlying  
10:36:20 14 premise that Merrill number 9 came later in time  
10:36:22 15 to Merrill number 8. I don't know that the  
10:36:24 16 witness has testified to that. I don't know that  
10:36:26 17 that's been established in the record.

10:36:26 18 MR. KILLORY: That's my first  
10:36:28 19 question.

10:36:30 20 Q. Looking at those two documents, does  
10:36:34 21 that aid your recollection any as to which of  
10:36:36 22 these two documents preceded the other?

10:36:40 23 A. I have no idea.

10:36:46 24 Q. Do you recall any discussion in your  
10:36:50 25 work with the Reuter's people on preparing the

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10:36:52 2 script for the seven-minute tape as to the use of  
10:36:54 3 the phrase "tobacco solubles" versus the use of  
10:36:56 4 the word "solubles"?

10:37:02 5 A. No, I do not.

10:37:22 6 Q. Could you look at page 4 of Exhibit  
10:37:24 7 Number 8, please.

10:37:24 8 (Witness complies.)

10:37:42 9 Q. The second paragraph down. The next  
10:37:46 10 to last sentence of the second paragraph reads,  
10:37:48 11 "Never at any point in the processing of any of  
10:37:52 12 these components has any additional nicotine been  
10:37:56 13 introduced."

10:37:58 14 The parallel paragraph in Exhibit  
10:38:02 15 Number 9, the parallel sentence in that exhibit  
10:38:06 16 reads, "No additional nicotine is introduced at  
10:38:08 17 any point in the processing of any of these  
10:38:16 18 components." Page PA 100482, which is the second  
10:38:24 19 page of Exhibit Number 9. It's the second  
10:38:28 20 sentence, again, of that paragraph.

10:38:32 21 Comparing those two sentences, my  
10:38:34 22 only question is, do you have any recollection of  
10:38:40 23 any discussion as to the phrasing of those two  
10:38:42 24 versions of that sentence.

10:38:48 25 A. No.

MANHATTAN REPORTING CORP.

2058459510

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10:38:50 2 Q. Does it refresh your recollection at  
10:38:54 3 all as to which of these scripts preceded the  
10:38:54 4 other?

10:38:56 5 A. I have no idea.

10:39:34 6 Q. If you could turn to page 6, the last  
10:39:40 7 page of Exhibit Number 8, Mr. Merrill.

10:39:40 8 (Witness complies.)

10:39:48 9 Q. The first sentence on that page of  
10:39:52 10 Exhibit Number 8 reads, "Nicotine in the  
10:39:54 11 denatured alcohol contributes less than one one  
10:39:58 12 thousandth of 1 percent of the nicotine content  
10:40:00 13 of a cigarette. In fact there is less nicotine  
10:40:02 14 in the final tobacco blend and indeed the final  
10:40:04 15 cigarette than existed in the tobacco materials  
10:40:06 16 before they were harvested or processed."

10:40:10 17 In the parallel paragraph of Exhibit  
10:40:14 18 Number 9, which is PA 100483, the last page of  
10:40:20 19 Exhibit Number 9, if you read up, counting the  
10:40:22 20 last line as a paragraph, the third paragraph  
10:40:24 21 from the bottom, again, the first letters are  
10:40:28 22 cropped, but I think it's easy to tell what the  
10:40:30 23 words are.

10:40:32 24 That first sentence reads, "Nicotine  
10:40:34 25 in the denatured alcohol contributes no

MANHATTAN REPORTING CORP.

2058459511

1 Merrill - Highly Confidential - Trade Secret  
2 measurable nicotine to the cigarette."

3 Do you recall any discussion with the  
4 Reuter's folks in drafting scripts for the  
5 seven-minute video as to whether to use the "less  
6 than one one thousandth of 1 percent" or "no  
7 measurable nicotine" description with regard to  
8 the denatured alcohol?

9 MR. NUNLEY: Objection as to form.  
10 It's a compound question.

11 Q. You can answer.

12 A. Would you just read it back, please.

13 Q. Let me ask a different question. Do  
14 you recall any discussion in the context of  
15 preparing the script on the subject of denatured  
16 alcohol?

17 A. Yes.

18 Q. What do you recall?

19 A. The phone conversation with  
20 Dr. Charles.

21 Q. The conversation you testified to  
22 yesterday?

23 A. Mm-hmm. That's correct.

24 Q. In which you discussed what the  
25 figure was, the measure of denatured alcohol, of

MANHATTAN REPORTING CORP.

2058459512

1 Merrill - Highly Confidential - Trade Secret  
10:41:44 2 nicotine in denatured alcohol; is that correct?

10:41:44 3 A. That's correct.

10:41:52 4 Q. Do you recall any discussions with  
10:41:54 5 the Reuter's folks in the context of preparing  
10:41:58 6 the seven-minute video script on the subject of  
10:42:00 7 the "denatured alcohol" phrasing?

10:42:12 8 A. Could you please define "phrasing"?

10:42:14 9 Q. In Exhibit Number 8 versus Exhibit  
10:42:20 10 Number 9 there are two different phrases. One  
10:42:24 11 is, preceding the reference to nicotine, ~~it~~ *one* ~~refers~~  
10:42:28 12 *is referring to it as* ~~refers to there's~~ no measurable nicotine, that's  
10:42:28 13 Exhibit Number 9. The other says, contributes  
10:42:32 14 less than one one thousandth of 1 percent to the  
10:42:34 15 nicotine content of the cigarette.

10:42:36 16 Do you recall any discussion on that  
10:42:36 17 subject?

10:42:38 18 A. No.

10:42:42 19 Q. Do you know which phrasing was used  
10:42:44 20 in the final script for the video?

10:42:46 21 A. No, I do not.

10:42:50 22 Q. And this doesn't refresh your  
10:42:52 23 recollection as to which of Exhibit 8 or Exhibit  
10:42:54 24 Number 9 preceded the other?

10:42:54 25 A. No.

MANHATTAN REPORTING CORP.

2058459513

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10:43:18 2 Q. In your testimony yesterday, you  
10:43:26 3 stated, I believe, that you had reviewed one set  
10:43:28 4 of interrogatory responses that Philip Morris  
10:43:28 5 filed; is that correct?

10:43:28 6 A. That's correct.

10:43:30 7 Q. Did you assist in the preparation of  
10:43:34 8 the interrogatory responses that you reviewed?

10:43:36 9 A. No, I did not.

10:43:38 10 Q. Did you see them in draft form or  
10:43:40 11 final, do you know?

10:43:48 12 A. No, I don't know.

10:44:08 13 MR. KILLORY: Chip, this isn't an  
10:44:12 14 exhibit. Apparently we only have one copy. If I  
10:44:14 15 could give it to the witness and the two of you  
10:44:16 16 could share, I just have a couple of questions.

10:44:20 17 Q. Mr. Merrill, I've handed you a  
10:44:24 18 document that's filed and of record in this case,  
10:44:26 19 I think has been made an exhibit in other  
10:44:28 20 depositions. I'm not making it an exhibit for  
10:44:30 21 this one. Let me identify it for the record.

10:44:32 22 It's a copy of Philip Morris's  
10:44:36 23 interrogatory answers and confidential addendum,  
10:44:38 24 which was filed on I believe August 18th, 1994,  
10:44:44 25 in response to interrogatories propounded by ABC

MANHATTAN REPORTING CORP.

2058459514

1 Merrill - Highly Confidential - Trade Secret  
2 on May 12th, 1994.

3 MR. NUNLEY: I would point out that  
4 it was Philip Morris, Incorporated's answers that  
5 the witness has been handed.

6 MR. KILLORY: That's right.

7 Q. Could you turn to page 9 of the  
8 confidential addendum, which is at the back of  
9 the interrogatory responses. There's a paragraph  
10 under number 2, "RL process." Could you just  
11 read that first paragraph.

12 (Witness complies.)

13 Q. Have you had a chance to read the  
14 paragraph?

15 A. Yes, I have.

16 Q. Did you participate in the drafting  
17 of this paragraph?

18 A. Not that I recall, no.

19 Q. Do you recall being consulted with  
20 regard to the subject matter of the paragraph?

21 A. No, I don't believe I was.

22 Q. In the sentence that reads "No  
23 extraneous nicotine is added to the tobacco  
24 materials in the process," "the process" being  
25 the RL process, what do you understand the word

Merrill - Highly Confidential - Trade Secret

"extraneous" to mean?

A. I understand the word "extraneous" in this case to mean someone bringing in nicotine obtained elsewhere and adding to the material.

Q. Elsewhere from other tobacco product?

A. Wherever.

Q. The next sentence indicates that -- it reads, "In fact a significant reduction of the nicotine naturally occurring in tobacco (of approximately 18.8 percent based on the measurement of alkaloids) occurs as a result of both yield losses in the process and thermal treatment in the drying process."

Apart from reading that paragraph, were you aware of that 18.8 percent reduction in nicotine?

MR. NUNLEY: Do you mean was he aware of the specific percentage or the fact that there is a reduction in nicotine?

MR. KILLORY: The specific percentage, independent of this document.

Q. Do you have any awareness of that?

A. No.



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10:48:04 2 Q. Do you know how the nicotine loss is  
10:48:04 3 determined?

10:48:08 4 A. How it is determined or how it was  
10:48:10 5 determined for this particular number?

10:48:14 6 Q. Well, we'll start with this  
10:48:14 7 particular number. Do you know how it was  
10:48:16 8 determined for this particular number?

10:48:16 9 A. No, I do not.

10:48:18 10 Q. More generally, do you know how  
10:48:20 11 nicotine loss is determined?

10:48:22 12 MR. NUNLEY: Objection as to form.  
10:48:24 13 It's vague. You mean with respect to the RL  
10:48:24 14 process?

10:48:28 15 Q. The loss -- accepting the 18.8  
10:48:30 16 percent number, which I understood you were  
10:48:32 17 carving out with your last answer, the process  
10:48:34 18 that's described in the paragraph that we're  
10:48:38 19 discussing, the nicotine loss. Do you know how  
10:48:38 20 that loss is determined?

10:48:50 21 A. Any loss would be determined by  
10:48:54 22 utilization of a material balance and analysis.

10:48:56 23 Q. What do you mean by use of material  
10:48:58 24 balance and analysis?

10:49:02 25 A. You would analyze the different

MANHATTAN REPORTING CORP.

2058459517

1 Merrill - Highly Confidential - Trade Secret  
10:49:04 2 streams for a given material.

10:49:06 3 Q. In the case of nicotine, do you know  
10:49:08 4 how that's done?

10:49:10 5 A. Not specifically, no.

10:49:10 6 Q. How about generally?

10:49:12 7 A. Generally, yes.

10:49:14 8 Q. How is it done?

10:49:14 9 A. You would take the different  
10:49:16 10 materials leaving the process and analyze them  
10:49:18 11 for nicotine content.

10:49:24 12 Q. Do you know at what points in the RL  
10:49:26 13 process materials are measured for nicotine  
10:49:28 14 content?

10:49:30 15 MR. NUNLEY: Do you mean for purposes  
10:49:32 16 of a material balance or on a regular basis?

10:49:36 17 MR. KILLORY: Let's start with on a  
10:49:38 18 regular basis.

10:49:42 19 A. Nicotine is not measured on a regular  
10:49:42 20 basis at the RL plant.

10:49:48 21 Q. How about for material balance? At  
10:49:50 22 what points is nicotine measured in the RL  
10:49:52 23 process?

10:49:56 24 A. We've run some stack emissions  
10:50:02 25 testing. One of the constituents measured is

Merrill - Highly Confidential - Trade Secret

nicotine.

Q. To come up with some estimate of nicotine loss you must have to have a measurement of the materials as they come in; is that correct?

A. That's correct.

Q. Do you know how that measurement is done?

A. No, I do not.

Q. Do you know how often measurement of the nicotine content of incoming materials in the RL process is done?

A. No, I do not.

MR. NUNLEY: I object to the extent your question suggests that nicotine is measured on a regular basis in incoming raw materials. I think what the record reflects is it may have been done for specific purposes of the material balance.

Q. Do you know who would know when nicotine has been measured in incoming materials in the RL process?

A. I have no idea.

Q. Do you know who would know when

1 Merrill - Highly Confidential - Trade Secret

10:51:08 2 nicotine has been measured for material balances  
10:51:12 3 at any stage in the RL process?

10:51:12 4 A. Just read that back, please.

10:51:18 5 Q. Do you know who would know when  
10:51:20 6 nicotine has been measured for any purpose, RL --  
10:51:22 7 material balances or otherwise, in the RL  
10:51:26 8 process?

10:51:28 9 A. No.

10:51:28 10 Q. You do not know?

10:51:30 11 A. No, I do not.

10:51:32 12 MR. NUNLEY: Mr. Merrill, he may be  
10:51:34 13 including in his question stack emissions. I  
10:51:36 14 don't know whether he is or not. The question is  
10:51:36 15 vague.

10:51:36 16 A. The question is vague. "Who" to me  
10:51:40 17 meant is <sup>there</sup> ~~this~~ a single person who knows whenever  
10:51:44 18 any nicotine has ever been measured at Park 500.  
10:51:46 19 I do not know if that person exists.

10:51:48 20 Q. Is there a person who is in charge of  
10:51:50 21 taking nicotine measurements in incoming  
10:51:52 22 materials whenever they may be taken?

10:51:58 23 A. Not that I'm aware of, no. Would you  
10:52:00 24 read that question back?

10:52:02 25 Q. Is there a person who was in charge

MANHATTAN REPORTING CORP.

2058459520

1 Merrill - Highly Confidential - Trade Secret

10:52:04 2 of taking nicotine measurements in incoming  
10:52:08 3 materials during the RL process whenever those  
10:52:08 4 measurements may be taken?

10:52:10 5 A. Not that I'm aware of, no.

10:52:22 6 Q. Are alkaloid levels measured on a  
10:52:24 7 regular basis in the RL process?

10:52:28 8 A. To my knowledge, alkaloid levels have  
10:52:32 9 never been measured in the RL process.

10:52:34 10 Q. For material balance purposes or  
10:52:34 11 regular?

10:52:36 12 A. For regular. I think your question  
10:52:40 13 was regularly, or did I misunderstand you?

10:52:48 14 Q. That's right. *That's right. That's right. witness: That's right. That's right.*  
10:52:50 15 question. When you said "ever," I didn't know  
10:52:52 16 whether you were broadening your answer beyond ~~on~~  
10:52:54 17 a regular basis. *I was answering your question*

10:52:56 18 A. ~~That's my answer.~~ On a regular  
10:52:56 19 basis. *they're never done*

10:52:58 20 Q. Do you know whether alkaloid levels  
10:53:02 21 have ever been taken on any basis, any  
10:53:04 22 measurements of alkaloid levels in the RL  
10:53:04 23 process?

10:53:04 24 A. Yes.

10:53:08 25 Q. When have those measurements been

Merrill - Highly Confidential - Trade Secret

taken?

A. We have sampled some of the emissions points for air purposes at Park 500.

Q. Is the alkaloid measurement in the testing for air emission purposes the same measurement as the nicotine measurement?

A. I honestly don't know.

Q. Do you know if there's a formula for projecting nicotine content based on alkaloid measurement?

MR. NUNLEY: In what substance?

MR. KILLORY: At any time in the testing process.

MR. NUNLEY: In what substance?

MR. KILLORY: In any substance.

Q. Any alkaloid measure that you're aware of in your professional capacity. Do you know whether there's a formula for converting that measurement to a nicotine figure?

A. No. I do not know.

Q. Do you know if there's any manual or other document that instructs employees as to how to take alkaloid or nicotine measurements at the RL facility?

MANHATTAN REPORTING CORP.

2058459522

1 Merrill - Highly Confidential - Trade Secret

10:54:28 2 A. No, I do not.

10:54:28 3 Q. How about in connection with the  
10:54:32 4 emissions testing of nicotine? Are there  
10:54:36 5 documents reflecting how those tests are taken?

10:54:38 6 A. You need to be a little more  
10:54:38 7 specific.

10:54:42 8 Q. Are there any guidelines, any manuals  
10:54:46 9 or guidelines that instruct employees as to the  
10:54:50 10 manner in which measurements are to be taken for  
10:54:52 11 nicotine or alkaloid testing in the emissions  
10:54:54 12 from the RL facility?

10:54:56 13 MR. NUNLEY: Objection as to form.  
10:54:56 14 Compound.

10:55:00 15 A. Which employees are you referring  
10:55:00 16 to?

10:55:02 17 Q. Any Philip Morris employees.

10:55:04 18 A. Any Philip Morris employees?

10:55:04 19 Q. That's right.

10:55:10 20 A. Not that I'm aware of, no.

10:55:14 21 Q. Is the emissions testing at the RL  
10:55:14 22 facility something that falls within the  
10:55:18 23 jurisdiction of your office?

10:55:18 24 A. That's correct.

10:55:24 25 Q. And who is responsible for that, the

MANHATTAN REPORTING CORP.

2058459523

1 Merrill - Highly Confidential - Trade Secret  
10:55:24 2 emissions testing?

10:55:28 3 A. Bill Apple. William S. Apple.

10:55:44 4 Q. How about the testing of incoming raw  
10:55:46 5 materials at the Park 500 facility? Has that  
10:55:48 6 ever fallen within the jurisdiction of your  
10:55:50 7 office?

10:55:50 8 MR. NUNLEY: The question is  
10:55:54 9 nonsensical, Mr. Killory. The witness has  
10:55:58 10 testified he's unaware of such testing.

10:56:02 11 Q. You can still answer the question.

10:56:04 12 A. Would you repeat the question?

10:56:06 13 Q. Has the testing of incoming raw  
10:56:10 14 materials at Park 500 ever fallen within the  
10:56:12 15 responsibility of your office?

10:56:12 16 A. No.

10:56:20 17 Q. Do you know at what points in the RL  
10:56:26 18 process the level of solubles are tested, is  
10:56:28 19 tested?

10:56:28 20 MR. NUNLEY: Objection. It's a very  
10:56:32 21 vague question. How do you mean, the levels of  
10:56:34 22 solubles? You mean in a tank, on the finished  
10:56:38 23 sheet, in the size? It's too vague to be  
10:56:38 24 answered.

10:56:40 25 Q. Do you understand the question?



1 Merrill - Highly Confidential - Trade Secret

10:56:42 2 A. Not specifically, no.

10:56:44 3 Q. Where are measurements taken in the  
10:56:46 4 RL process of solubles?

10:57:00 5 A. I remember them being taken before  
10:57:04 6 and after the evaporator. This would be after  
10:57:06 7 the tobacco solubles were extracted from the  
10:57:12 8 fiber. And I remember them being done on the  
10:57:14 9 finished sheet.

10:57:14 10 MR. NUNLEY: Mr. Merrill, what is the  
10:57:16 11 time frame of your answer?

10:57:18 12 THE WITNESS: That's between 1976 and  
10:57:20 13 1982.

10:57:26 14 Q. You're not familiar with the RL  
10:57:28 15 process after 1982?

10:57:32 16 A. There are some portions that have  
10:57:34 17 been changed that I'm not familiar with.

10:57:36 18 Q. So when you were listed in the  
10:57:40 19 interrogatory response of Philip Morris as one of  
10:57:42 20 the handful of people most familiar with the RL  
10:57:44 21 process, that's only accurate up to 1982?

10:57:48 22 MR. NUNLEY: That's not what he  
10:57:50 23 answered. The import of his answer was certain  
10:57:52 24 things have changed. Others remain the same.

10:57:58 25 Q. Are you familiar with the RL process

MANHATTAN REPORTING CORP.

2058459525

1 Merrill - Highly Confidential - Trade Secret  
10:58:00 2 since 1982?

10:58:04 3 A. Which parts of it?

10:58:08 4 Q. The entire RL process.

10:58:10 5 A. I am not familiar with the entire RL  
10:58:12 6 process since 1982.

10:58:14 7 Q. What parts are you familiar with?

10:58:22 8 A. What parts am I familiar with? The  
10:58:32 9 line 1 operations, line 2, boiler house, waste  
10:58:38 10 treatment, and all that's exclusive of whatever  
10:58:42 11 particular product they may happen to be running  
10:58:44 12 or have run since 1982.

10:58:48 13 Q. Did you understand that you had been  
10:58:50 14 listed as one of the handful of people most  
10:58:52 15 familiar with RL process in the Philip Morris  
10:58:54 16 interrogatory responses?

10:58:58 17 A. Not until you showed me yesterday.

10:59:24 18 Q. Apart from the question answered by  
10:59:28 19 Mr. Annamanthadoo, did anyone else answer  
10:59:32 20 questions posed by the FDA during the FDA tour  
10:59:38 21 regarding the RL process, besides you?

10:59:38 22 MR. NUNLEY: Do you mean at that  
10:59:40 23 portion of the tour conducted at the RL  
10:59:42 24 facility?

10:59:42 25 MR. KILLORY: That's right.

MANHATTAN REPORTING CORP.

2058459526

1 Merrill - Highly Confidential - Trade Secret

10:59:48 2 A. I don't recall specifically.

10:59:52 3 Q. But you conducted the tour of the RL  
10:59:54 4 facility, is that correct, with the FDA  
10:59:56 5 personnel?

11:00:10 6 A. That's correct. Could we take a  
11:00:10 7 short break?

11:00:12 8 Q. Sure.

11:00:12 9 THE VIDEO OPERATOR: We're going off  
11:00:16 10 the record. The time on the screen is 11:00:13.  
11:00:18 11 (A recess was taken.)

11:15:16 12 THE VIDEO OPERATOR: We're back on  
11:15:22 13 the record. The time on the screen is 11:15:19.

11:15:30 14 MR. KILLORY: Please mark this as  
11:15:30 15 11.

16 (Merrill Exhibit 11 for  
17 identification, research and development chemical  
18 analysis section service request and data sheet.)

11:16:12 19 Q. Mr. Merrill, I've just handed you a  
11:16:14 20 document that has been marked Merrill Exhibit  
11:16:18 21 Number 11. It is a two-page document with a  
11:16:24 22 Bates stamp PA 397219 through 20. The production  
11:16:30 23 number is 2025329844 through 456789, <sup>115</sup>entitled  
11:16:32 24 "Research and development chemical analysis  
11:16:36 25 section service request and data sheet." Under

MANHATTAN REPORTING CORP.

2058459527

1 Merrill - Highly Confidential - Trade Secret

11:16:40 2 the request description is "Weigan evaporator run  
11:16:44 3 on RLBTW line 3," and set forth below that are a  
11:16:46 4 series of measurements.

11:16:48 5 Can you take a look at the document,  
11:16:48 6 please.

11:16:48 7 (Witness complies.)

11:17:42 8 Q. Have you had a chance to look at  
11:17:44 9 Exhibit Number 11, Mr. Merrill?

11:17:44 10 A. Yes, I have.

11:17:46 11 Q. Do you recall ever seeing this  
11:17:48 12 document before?

11:17:50 13 A. No, I have not.

11:17:56 14 Q. Do you recall ever seeing documents  
11:17:56 15 in the same form as this document?

11:17:56 16 A. No, I have not.

11:18:02 17 Q. In the measurements that are listed,  
11:18:06 18 one of the measurements is alkaloids, along with  
11:18:10 19 a variety of other substances. Do you know just  
11:18:16 20 from looking at this document and the request  
11:18:16 21 description at what point in the process these  
11:18:18 22 measurements were taken?

11:18:20 23 MR. NUNLEY: Objection as to form. I  
11:18:24 24 think, Mr. Killory, your question assumes the  
11:18:26 25 tests were taken as part of the process. That's

1 Merrill - Highly Confidential - Trade Secret

11:18:30 2 not established in the record, and the document  
11:18:30 3 certainly doesn't support that.

11:18:32 4 MR. KILLORY: Let me rephrase the  
11:18:34 5 question. It's a fair point.

11:18:38 6 Q. Do you know from the request  
11:18:44 7 description, and from the test measurements  
11:18:48 8 listed below, at what point these measurements  
11:18:50 9 were taken?

11:18:54 10 A. No, I do not.

11:18:58 11 Q. The Weigan evaporator run doesn't  
11:19:00 12 have any particular significance?

19:06 13 A. The Weigan evaporator was a new piece  
11:19:08 14 of equipment put in long after I left Park 500.

11:19:14 15 Q. Do you know what -- the series of  
11:19:22 16 references to K2APB-1 and continuing right up  
11:19:26 17 through dash 12, do you know what those refer to,  
11:19:28 18 those different labels?

11:19:28 19 A. No, I do not.

11:19:36 20 Q. This is not an alkaloid test that  
11:19:38 21 you're familiar with at Park 500?

11:19:40 22 MR. NUNLEY: Objection, to the extent  
11:19:44 23 it assumes there was an alkaloid test that was  
11:19:46 24 done at Park 500. Again, it's not established by  
19:48 25 the record, it's not established by the

Merrill - Highly Confidential - Trade Secret

document.

Q. Do you know what RLBTW is?

A. RLB --

Q. <sup>document</sup> At the top of the page. Let me refer  
you to the "Weigan evaporator run on RLBTW."

A. Oh.

Q. Does <sup>that</sup> ~~this~~ refer to RL product?

A. I'm not sure specifically what that  
group of letters refers to.

Q. So you don't know whether that refers  
to a product that's produced at the RL facility?

A. Not one that I know of, no.

Q. Is the Weigan evaporator -- the  
reference to the Weigan evaporator, line 3, do  
you know whether that refers to the Park 500  
facility?

A. That's the only place that I know we  
have Weigan evaporators.

Q. You can put that exhibit aside,  
Mr. Merrill. Are you familiar with the  
denitration process at the RL facility?

A. Yes, I am.

Q. Could you describe for me what the  
denitration process is?

2058459530

1 Merrill - Highly Confidential - Trade Secret

11:21:04 2 A. The process consists of a set of  
11:21:10 3 coolers that cools off the product from the  
11:21:16 4 evaporators down to about 10 degrees Fahrenheit.  
11:21:22 5 At that range of temperature, crystals of  
11:21:24 6 potassium nitrate form. It goes through a  
11:21:26 7 centrifuge to separate the crystals from the  
11:21:30 8 remaining material.

11:21:34 9 When I was at Park 500 from '76 to  
11:21:38 10 '82, it used to go into a little tank with some  
11:21:42 11 very cold water to wash some of the materials out  
11:21:48 12 from the nitrates, soluble materials, and then  
1 21:50 13 they were separated in a second centrifuge to  
11:21:52 14 separate the crystals from that wash water.

11:22:12 15 Q. When you took the FDA personnel on  
11:22:16 16 the tour, I'm correct you testified you didn't do  
11:22:18 17 any special preparation before that tour; is that  
11:22:18 18 right?

11:22:20 19 A. That's correct.

11:22:22 20 Q. You were notified the evening -- the  
11:22:26 21 late afternoon of the day before, and took them  
11:22:30 22 on the tour the next morning; is that correct?

11:22:30 23 A. That's correct.

11:22:34 24 Q. When you took them on the tour of the  
1 22:36 25 RL facility, what was the basis for your

1 Merrill - Highly Confidential - Trade Secret

11:22:38 2 knowledge about the RL process that you were  
11:22:40 3 describing to the FDA personnel?

11:22:48 4 A. The basis of my knowledge was the six  
11:22:50 5 years I had worked at Park 500.

11:22:52 6 Q. 1976 through 1982?

11:22:54 7 A. That's correct.

11:23:00 8 Q. Going back to potassium nitrate, do  
11:23:02 9 you know why the potassium nitrate is removed  
11:23:06 10 from the product that's produced at the Park 500  
11:23:06 11 facility?

11:23:08 12 A. No, I do not.

11:23:14 13 Q. The confidential addendum states that  
11:23:16 14 potassium nitrate would produce nitrogen oxide  
11:23:22 15 when smoked. Are you familiar with that?

11:23:24 16 A. No.

11:23:26 17 Q. Do you know for a fact that nitrogen  
11:23:30 18 oxide would be produced by the smoking of  
11:23:32 19 material containing potassium nitrate?

11:23:34 20 A. No, I do not.

11:23:36 21 Q. Have you ever heard that there was a  
11:23:38 22 health risk associated with potassium nitrate in  
11:23:40 23 a cigarette?

11:23:42 24 A. No, I did not.

11:23:44 25 Q. Ever had any discussions with anybody

MANHATTAN REPORTING CORP.

2058459532



1 Merrill - Highly Confidential - Trade Secret

11:23:46 2 on that subject?

11:23:54 3 A. I probably heard some fourth or fifth  
11:23:54 4 hand conversation.

11:23:58 5 Q. On the subject of the health risk of  
11:23:58 6 potassium nitrate?

11:24:02 7 A. No, not exactly the health risk of  
11:24:06 8 potassium nitrate, but as to why the nitrates are  
11:24:06 9 being removed.

11:24:08 10 Q. And what's your understanding as to  
11:24:16 11 why the nitrates are being removed?

11:24:18 12 MR. NUNLEY: He said he heard it  
11:24:22 13 fourth or fifth hand. I don't know if he's  
11:24:24 14 adopted it as his understanding.

11:24:24 15 Q. Do you have any understanding?

11:24:24 16 A. No.

11:24:28 17 Q. Did you ever ask anyone in the course  
11:24:30 18 of your work at the Park 500 facility why the  
11:24:34 19 potassium nitrate is removed?

11:24:36 20 A. No.

11:24:36 21 Q. Do you know how expensive the process  
11:24:40 22 is for Philip Morris to remove the potassium  
11:24:40 23 nitrates?

11:24:44 24 A. No, I do not.

11:24:52 25 Q. Do you know what percentage of the

1 Merrill - Highly Confidential - Trade Secret  
11:24:58 2 total solubles removed from the raw materials in  
11:25:02 3 the RL process is represented by the potassium  
11:25:06 4 nitrate that is taken out in the denitration  
11:25:06 5 process?

11:25:08 6 MR. NUNLEY: Objection as to form.

11:25:10 7 A. You need to read that back again.

11:25:12 8 Q. Okay. Of the total solubles, the  
11:25:14 9 solubles component after the solubles is  
11:25:18 10 separated from the fiber in the RL process, are  
11:25:18 11 you with me that far?

11:25:20 12 A. Let's start all over again. I'm  
11:25:20 13 sorry.

11:25:22 14 Q. What are the solubles in the RL  
11:25:22 15 process?

11:25:28 16 A. The solubles are that part of the  
11:25:32 17 tobacco plant that are soluble in hot water.

11:25:36 18 Q. Are those solubles removed from the  
11:25:38 19 raw materials as part of the RL process?

11:25:42 20 A. The solubles are separated from the  
11:25:44 21 fiber portion of the tobacco, that's correct.

11:25:48 22 Q. And the potassium nitrate we were  
11:25:52 23 just discussing is contained in those soluble  
11:25:54 24 materials; is that correct?

11:25:54 25 A. That's correct.

MANHATTAN REPORTING CORP.

2058459534

Merrill - Highly Confidential - Trade Secret

11:25:58 2 Q. Do you know what percentage of those  
11:26:00 3 soluble materials is represented by the potassium  
11:26:02 4 nitrate by weight?

11:26:04 5 A. No, I do not.

11:26:06 6 Q. Do you have any idea?

11:26:08 7 A. It varies.

11:26:12 8 Q. What is the range of the variation?

11:26:16 9 A. I don't recall a range. I know that  
11:26:22 10 at one point in time I was aware of one crop year  
11:26:26 11 that had more nitrate, potassium nitrate, than  
11:26:28 12 the previous year.

11:26:32 13 Q. So it can vary from crop year to crop  
11:26:32 14 year?

11:26:32 15 A. That's correct.

11:26:34 16 Q. Any ball park number that you're  
11:26:36 17 familiar with as to what the percentage by weight  
11:26:38 18 is of the potassium nitrate?

11:26:42 19 MR. NUNLEY: When you say "is," do  
11:26:42 20 you mean does he have knowledge of the current  
11:26:46 21 weight percentage of potassium nitrate in the  
11:26:48 22 solubles?

11:26:50 23 MR. KILLORY: Let me rephrase it.

11:26:52 24 Q. You've testified that it varies. My  
11:26:54 25 question is, have there been -- at any time is

MANHATTAN REPORTING CORP.

2058459535

Merrill - Highly Confidential - Trade Secret

11:26:56 2 there a number attached to that percentage that  
11:26:58 3 varies? Have you ever known what the percentage  
11:27:04 4 was at any time of a potassium nitrate as a  
11:27:06 5 percentage of the solubles in the RL process?

11:27:10 6 A. I'm sure I was, but I can't remember  
11:27:10 7 what the number was.

11:27:12 8 Q. Even as a ball park figure, you don't  
11:27:12 9 know?

11:27:14 10 A. No.

11:27:20 11 Q. When the potassium nitrate is removed  
11:27:24 12 in the denitration process, is there some element  
11:27:30 13 added to substitute for it?

11:27:30 14 A. No.

11:27:38 15 Q. Is there any other measurement for  
11:27:42 16 potassium nitrate besides weight that you're  
11:27:46 17 familiar with such as volume?

11:27:54 18 MR. NUNLEY: Objection as to form.

11:27:56 19 A. I'm not sure <sup>what you mean by</sup> ~~I understand~~.

11:27:56 20 Q. I previously asked you about the  
11:28:00 21 percentage in the overall solubles. Are you  
11:28:02 22 familiar with any measurements of potassium  
11:28:04 23 nitrate by volume as a percentage of the overall  
11:28:06 24 volume of solubles?

11:28:08 25 A. No.

1 Merrill - Highly Confidential - Trade Secret

11:28:18 2 Q. When the potassium nitrate is removed  
11:28:24 3 from the solubles, are the solubles, the  
11:28:26 4 remaining <sup>soluble</sup> components in the remaining solubles  
11:28:30 5 more concentrated as a result of the removal of  
11:28:36 6 the potassium nitrate?

11:28:36 7 A. I have no idea.

11:28:40 8 Q. You don't have any understanding as  
11:28:42 9 to whether the removal of potassium nitrate from  
11:28:44 10 the solubles would result in a higher  
11:28:48 11 concentration of the other components as a  
11:28:50 12 percentage of the remaining solubles?

11:28:56 13 A. I'm not even sure it would.

11:29:00 14 Q. If you take out one element in the  
11:29:04 15 solubles and not replace it with another, you  
11:29:06 16 don't know that that would result in a higher  
11:29:08 17 concentration of the other components as a  
11:29:10 18 percentage of the remaining solubles?

11:29:12 19 MR. NUNLEY: Mr. Killory, I think  
11:29:16 20 your question presumes that the only soluble  
11:29:18 21 element that comes out in nitrate extraction is  
11:29:20 22 nitrates. I don't think that's established in  
11:29:22 23 the record or the testimony.

11:29:24 24 MR. KILLORY: It doesn't presume  
11:29:28 25 anything about the exclusive -- just limiting it

MANHATTAN REPORTING CORP.

2058459537

1 Merrill - Highly Confidential - Trade Secret  
11:29:32 2 to the elimination, the removal of the potassium  
11:29:34 3 nitrate from the solubles.

11:29:36 4 Q. Potassium nitrate is one constituent  
11:29:38 5 component of the solubles; is that correct?

11:29:38 6 A. That's correct.

11:29:42 7 Q. When that one constituent component  
11:29:44 8 is removed, the remaining constituent components  
11:29:46 9 of the solubles have a higher percentage of the  
11:29:48 10 overall total of the solubles; is that correct?

11:29:50 11 MR. NUNLEY: Mr. Killory, your  
11:29:52 12 question has the same basic flaw, and that is it  
11:29:56 13 presumes the nitrate is -- the nitrate's removal  
11:30:00 14 is perfectly selective. If it's not perfectly  
11:30:02 15 selective and other components of the soluble  
11:30:04 16 stream come out with the nitrates, then there's  
11:30:06 17 no basis for your question.

11:30:08 18 Q. Do you understand my question?

11:30:10 19 A. I'm not sure I understand your  
11:30:12 20 question.

11:30:30 21 Q. Let me ask it in terms of the  
11:30:32 22 hypothetical. If a constituent in a mix of  
11:30:36 23 solubles, and by now I'm not referring to the  
11:30:40 24 solubles at Park 500, if a constituent element of  
11:30:44 25 a universe of solubles is taken out of those

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11:30:48 2 solubles, are the remaining constituent elements  
11:30:52 3 in those solubles a higher percentage of the  
11:30:54 4 overall total than they were before that  
11:30:58 5 constituent element was taken out?

11:30:58 6 MR. NUNLEY: Objection as to form.  
11:31:00 7 It's a hypothetical. It's not supported by the  
11:31:00 8 facts in the record.

11:31:00 9 Q. Do you understand the question?

11:31:04 10 A. Yes, but I don't know what the answer  
11:31:04 11 is.

11:31:14 12 Q. When the potassium nitrate is taken  
11:31:16 13 out in the RL process, do you know if other  
11:31:20 14 elements of the solubles are taken out at the  
11:31:20 15 same time?

11:31:20 16 A. Yes, they are.

11:31:22 17 Q. What are those elements?

11:31:22 18 A. I have no idea.

11:31:26 19 Q. In what amount are those elements  
11:31:28 20 taken out?

11:31:32 21 A. I don't recall the exact number.

11:31:34 22 Q. What happens to those elements?

11:31:36 23 A. As I stated earlier, they're washed  
11:31:40 24 with cold water and the water separated, and what  
11:31:44 25 remains in the potassium nitrate crystals is not

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11:31:46 2 100 percent potassium nitrate. There is still  
11:31:50 3 some soluble material included with the crystals.

11:31:50 4 Q. Do you know what the percentage  
11:31:54 5 relationship of potassium nitrate to other  
11:31:56 6 elements in the potassium nitrate crystals is?

11:31:58 7 A. No.

11:32:04 8 Q. Who would know the answer to that?

11:32:06 9 A. I have no idea.

11:32:16 10 Q. What do you do, what does Philip  
11:32:18 11 Morris do with the potassium nitrates?

11:32:24 12 A. The nitrate is sold to a fertilizing<sup>or</sup>  
11:32:24 13 manufacturer.

11:32:28 14 Q. Are there other elements still in the  
11:32:30 15 potassium nitrate when they're sold to the  
11:32:32 16 fertilizer manufacturer?

11:32:32 17 A. That's correct.

11:32:34 18 Q. You don't know what those other  
11:32:34 19 elements are?

11:32:36 20 A. No, I do not.

11:32:38 21 Q. Do those other elements contain  
11:32:38 22 nicotine?

11:32:42 23 A. I don't know if they do or not.

11:32:50 24 Q. Do you know whether Philip Morris has  
11:32:52 25 ever calculated the extra cost it incurs to



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2 remove nitrates in the RL process?

3 A. No, I do not.

4 Q. Do you know whether Philip Morris has  
5 ever considered for financial reasons or  
6 otherwise ceasing the removal of potassium  
7 nitrates in the RL process?

8 A. No, I do not.

9 Q. Do you know whether other constituent  
10 components of the solubles could be removed in  
11 the same manner as the potassium nitrates are  
12 removed?

13 MR. NUNLEY: How do you mean? Using  
14 the nitrate extraction process?

15 MR. KILLORY: A process like that.

16 MR. NUNLEY: What do you mean by "a  
17 process like that"?

18 MR. KILLORY: An extraction process.

19 MR. NUNLEY: Objection as to form.  
20 Vague.

21 A. It's vague.

22 Q. Do you know whether it's  
23 technologically possible to remove other  
24 constituent elements of the solubles besides the  
25 potassium nitrates?

MANHATTAN REPORTING CORP.

2058459541

Merrill - Highly Confidential - Trade Secret

11:33:58 2 A. Yes.

11:34:04 3 Q. Are there any constituent elements of  
11:34:06 4 the solubles that could not be removed by an  
11:34:08 5 extraction process with the existing technology?

11:34:08 6 A. I don't know.

11:34:12 7 Q. Could other constituent elements be  
11:34:18 8 removed by a process identical to that used for  
11:34:18 9 the potassium nitrates?

11:34:20 10 MR. NUNLEY: You mean a  
11:34:22 11 crystalization nitrate removal system?

11:34:24 12 MR. KILLORY: That's right. A  
11:34:26 13 crystalization system.

11:34:32 14 A. I don't know how to answer that  
11:34:34 15 question.

11:34:36 16 Q. The question is simply do you know  
11:34:38 17 whether other constituent elements could be  
11:34:44 18 removed through a centrifugal crystalization  
11:34:46 19 process such as that used for the potassium  
11:34:48 20 nitrate removal.

11:34:50 21 A. No, I don't know.

11:34:58 22 Q. Are you aware of any discussion of  
11:35:02 23 removing other constituent elements from the  
11:35:06 24 solubles in the RL process?

11:35:08 25 A. None that I'm aware of, no.

2058459542

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11:35:16 2 Q. In your familiarity with the RL  
11:35:18 3 process, do you know whether other constituent  
11:35:22 4 elements have ever been removed from the solubles  
11:35:24 5 other than the potassium nitrates?

11:35:34 6 A. You mean such as the potassium  
11:35:34 7 nitrate?

11:35:38 8 Q. Beyond the potassium nitrate are  
11:35:40 9 there other constituent elements that have been  
11:35:42 10 removed in the RL process at any time that you're  
11:35:42 11 familiar with?

11:35:44 12 A. No.

11:35:52 13 Q. Are you familiar with the pulper as  
11:35:54 14 part of the RL process?

11:35:54 15 A. Yes.

11:35:58 16 Q. What happens in the pulper?

11:36:04 17 A. In the pulper you add your raw  
11:36:10 18 materials and hot water, and you agitate it, and  
11:36:16 19 once it's agitated you discharge the solution  
11:36:20 20 from -- or mixture, I guess it really is -- from  
11:36:20 21 the pulper.

11:36:26 22 Q. Besides the water and the raw  
11:36:28 23 materials, is anything else introduced to the  
11:36:32 24 pulper in that process?

11:36:40 25 A. Occasionally steam.

MANHATTAN REPORTING CORP.

2058459543

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11:36:42 2 Q. Do you know whether portions of the  
11:36:46 3 solubles from earlier batches of raw material  
11:36:48 4 processing are introduced into the pulper?

11:36:50 5 A. They are part of the hot water that  
11:36:54 6 you use to extract material from -- in the  
11:36:54 7 pulper.

11:36:56 8 Q. So the hot water that's introduced  
11:37:00 9 into the pulper along with the new raw materials  
11:37:02 10 includes in it some solubles?

11:37:02 11 A. That's correct.

11:37:04 12 Q. Where do those solubles come from?

11:37:10 13 A. Those solubles come from the paper  
11:37:12 14 machine.

11:37:16 15 Q. The processing of earlier batches of  
11:37:18 16 raw materials through the paper machine?

11:37:22 17 A. When you form the sheet -- or let's  
11:37:24 18 put it this way. When you form a sheet of paper,  
11:37:28 19 you have copious amounts of water which helps  
11:37:30 20 make the sheet. So as that sheet is being formed  
11:37:36 21 those copious amounts of water come out.

11:37:36 22 So then they're collected and they're  
11:37:40 23 recycled in all of the paper type plants.

11:37:44 24 Q. Are there any solubles recycled from  
11:37:50 25 the soluble processing portion of the RL process

MANHATTAN REPORTING CORP.

2058459544

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11:37:54 2 back into the pulper?

11:37:56 3 A. You're going to have to repeat that.  
11:37:56 4 I don't --

11:37:56 5 Q. Okay. You've described the fiber  
11:38:02 6 paper creation side, creating some solubles, some  
11:38:04 7 water containing solubles that are recycled back  
11:38:06 8 to the pulper; correct?

11:38:08 9 A. That's correct.

11:38:10 10 Q. After the fiber separated from the  
11:38:16 11 solubles, the solubles are processed; is that  
12 correct?

11:38:16 13 A. That's correct.

11:38:18 14 MR. NUNLEY: Mr. Killory, you're  
11:38:20 15 asking all your questions in the present tense.  
11:38:22 16 I am going to ask for a continuing objection and  
11:38:24 17 understanding that this witness is testifying  
11:38:28 18 based on his knowledge of the process as it  
11:38:30 19 existed from '76 to '82.

11:38:32 20 Q. Do you have any basis for any  
11:38:34 21 understanding of the RL process since 1982?

11:38:46 22 A. I understand the basic concepts of  
11:38:48 23 producing an RL sheet.

11:38:50 24 Q. I'll certainly stipulate all these  
11:38:52 25 questions are directed to whatever your

MANHATTAN REPORTING CORP.

2058459545

Merrill - Highly Confidential - Trade Secret

understanding is of the RL process, that when I say "is," I mean in the present tense of your understanding, your current understanding based on '76 through '82 or anything else that you know. That's what I mean.

MR. KILLORY: So in that form I agree to your stipulation.

Q. In the processing of the solubles, are there any soluble materials that are generated and recycled back into the pulper?

A. No.

Q. Are you familiar with the term "weak extracted liquor"?

A. Yes.

Q. What is weak extracted liquor?

A. Well, first off, I don't use those terms per se. They're typified as WEL-1 or "well 1," "well 2." When you discharge the pulper through the first press, that material is called SEL. And then as you pass it through the second press to squeeze more water out, the amount of solubles in that water is less than the first, so that's WEL-1.

And then when you go in the third

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press and squeeze it one last time, that material has even less solubles in it. That's called WEL-2.

Q. Just for the record, when you're saying WEL-1 and WEL-2, that's WEL dash 1, WEL dash 2. And the SEL you referred to is an abbreviation for strong extracted liquor; is that correct?

A. That's correct.

Q. Do you know whether the -- which of the WELs is circulated back into the pulper?

A. I don't ever remember any of them going back into the pulper.

Q. So as far as you're aware, the WEL in any form is not circulated back to the pulper?

A. Not that I'm aware of, no.

Q. How about, are you aware of any instances in which the strong extracted liquor, the SEL, is recycled back into the pulper in the course of RL production?

A. No.

Q. If it were, would that be extraneous solubles to the raw materials that are being added to the pulper?

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11:41:48 2 A. I'm not sure exactly what would  
11:41:52 3 happen. I don't know what the holding capacity  
11:41:54 4 of the water is for solubles.

11:41:56 5 Q. How does that impact whether the  
11:41:58 6 solubles being sent back to the pulper to be  
11:42:04 7 joined with new raw materials are extraneous?

11:42:06 8 A. Well, if -- again, I don't know what  
11:42:10 9 the holding capacity of the water is, but when  
11:42:16 10 you solubilize materials, water can only hold so  
11:42:20 11 much of a given type of material.

11:42:22 12 If I put a stream back such as that  
11:42:26 13 into the pulper, then what that may very well  
11:42:30 14 mean is I don't get enough away from the fiber,  
11:42:34 15 so that the fiber now is not as clean as it needs  
11:42:38 16 to be. So it would seem kind of fruitless to  
11:42:42 17 work so hard to get it out and then put it back  
11:42:44 18 where you started it from.

11:42:48 19 Q. Apart from whether it would be  
11:42:52 20 fruitless, my question is just limited to if in  
11:42:58 21 fact solubles in the form of SEL or WEL are  
11:43:00 22 recirculated back into the pulper to be mixed up  
11:43:04 23 with <sup>new</sup> batches of incoming new raw materials, would  
11:43:08 24 those solubles be extraneous to the new batches  
11:43:10 25 of raw materials?

MANHATTAN REPORTING CORP.

2058459548



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11:43:12 2 MR. NUNLEY: Well, I object to that  
11:43:14 3 because I don't think there's any testimony that  
11:43:18 4 it is recycled, and I'm talking now any testimony  
11:43:20 5 in the record at all from one batch to the next.  
11:43:26 6 I don't think your hypothetical is based on facts  
11:43:28 7 established in the record.

11:43:30 8 Q. Do you understand the question I  
11:43:30 9 asked?

11:43:34 10 A. Not specifically, no.

11:44:06 11 Q. Let me repeat the question. If the  
11:44:14 12 SEL or WEL are circulated back into the pulper to  
11:44:16 13 be mixed up with batches of incoming raw  
11:44:20 14 material, would those solubles be extraneous to  
11:44:22 15 those raw materials being introduced into the  
11:44:24 16 pulper?

11:44:24 17 MR. NUNLEY: Same objection. This  
11:44:26 18 time it's a compound question.

11:44:28 19 A. What is your definition of  
11:44:30 20 "extraneous"?

11:44:32 21 Q. What was your definition earlier in  
11:44:34 22 your testimony?

11:44:40 23 A. I took your "extraneous" to mean it  
11:44:42 24 just kind of sits there and has no effect on the  
11:44:42 25 process as it goes on.

MANHATTAN REPORTING CORP.

2058459549

1 Merrill - Highly Confidential - Trade Secret

11:44:48 2 Q. Is that your definition of  
11:44:48 3 "extraneous"?

11:44:52 4 A. That's why I asked you what you were  
11:44:54 5 referring to. I mean, that's my understanding of  
11:44:56 6 what you asked me. That's why I gave the  
11:44:56 7 explanation --

11:44:58 8 Q. When I earlier asked you for your  
11:45:00 9 definition of "extraneous," I don't have the  
11:45:02 10 exact words, do you recall what you testified?

11:45:04 11 MR. NUNLEY: Why don't we stop and  
11:45:06 12 look for it, Mr. Killory. That's the reason for  
11:45:08 13 having this high tech gizmo that's in front of  
11:45:10 14 both of us.

11:45:16 15 Q. Do you know what rich brown water is  
11:45:18 16 in the context of the RL process?

11:45:20 17 A. Yes, I do.

11:45:22 18 Q. What is rich brown water?

11:45:34 19 A. Rich brown water is most often strong  
11:45:36 20 brown water.

11:45:38 21 Q. And what is strong brown water? Are  
11:45:40 22 they the same thing or different?

11:45:44 23 A. Most of the time they are the same.

11:45:48 24 Q. Is one stronger? How are they  
11:45:52 25 different, when they are different? Is one a

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11:45:54 2 subcategory -- let me strike the previous  
11:45:58 3 question. Is one a subcategory of the other?

11:46:00 4 MR. NUNLEY: Is one what a  
11:46:00 5 subcategory --

11:46:02 6 MR. KILLORY: The two items we're  
11:46:04 7 talking about, rich brown water and strong brown  
11:46:04 8 water.

11:46:10 9 A. What do you define by --

11:46:12 10 Q. You said most of the time they're the  
11:46:12 11 same, sometimes they're different.

11:46:12 12 A. That's correct.

11:46:14 13 Q. Can you explain to me, when they're  
11:46:16 14 different, how they are different?

11:46:24 15 A. Sometimes if there is not enough RBW  
11:46:30 16 to feed the pulpers, you introduce fresh water to  
11:46:30 17 make up the volume.

11:46:38 18 Q. Let me go back to "extraneous" for a  
11:46:40 19 moment. In your earlier testimony you said, "I  
11:46:44 20 understand the word 'extraneous' in this case to  
11:46:46 21 mean someone bringing in" -- it reads "nickels,"  
11:46:50 22 I believe you said "materials" -- "from elsewhere  
11:46:50 23 and adding to the material." That's not  
11:46:54 24 literally what this transcript says, but I  
11:46:56 25 believe that's what you said.

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11:46:56 2 A. Correct.

11:46:58 3 Q. Under that definition of

11:47:00 4 "extraneous," I said, "Elsewhere from other  
11:47:04 5 tobacco product"? You said, "Wherever."

11:47:04 6 A. That's correct.

11:47:04 7 Q. To complete the definition of

11:47:06 8 "extraneous." Under that definition of

11:47:14 9 "extraneous," let me go back to my previous  
11:47:16 10 question.

11:47:16 11 . MR. NUNLEY: Wait a minute. Wait a  
11:47:20 12 minute. Go back to that. Your earlier question  
11:47:24 13 was in the context of the process. He said  
11:47:40 14 extraneous to the process. The question was, "In  
11:47:42 15 the sentence that reads, 'No extraneous nicotine  
11:47:44 16 is added to the tobacco materials in the  
11:47:50 17 process,' 'process' being the RL process, what do  
11:47:52 18 you understand the word 'extraneous' to mean?"

11:47:52 19 And he says, "I understand the word  
11:47:52 20 'extraneous' in this case to mean someone  
11:47:56 21 bringing in materials and adding them to the  
11:47:58 22 material." Again, within -- and that's the end  
11:48:02 23 of his answer. And that is within the context of  
11:48:06 24 the RL process. You set the context by your  
11:48:06 25 question.

MANHATTAN REPORTING CORP.

2058459552

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Q. What were we talking about in our recent discussion of "extraneous"? It was the RL process, was it not?

A. A portion of it.

Q. Using that definition of "extraneous" that you gave previously, <sup>I'd like</sup> to repeat my prior question, which is, if the SEL or WEL are circulated back into the pulper to be mixed up with incoming raw materials, would those solubles contained in the SEL or WEL be extraneous to the raw materials being introduced into the pulper?

MR. NUNLEY: You changed the context of your question.

MR. KILLORY: I have not.

MR. NUNLEY: You certainly have.

Q. Do you understand the question?

A. Just repeat it one time, please.

Q. Using the definition of "extraneous" that you gave before --

MR. NUNLEY: That being within the process.

Q. If the SEL or WEL are circulated back into the pulper to be mixed up with incoming raw material, would the solubles contained in the SEL

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2 or WEL be extraneous to the raw materials being  
3 introduced into the pulper?

4 MR. NUNLEY: Same objection.

5 A. Absolutely not.

6 Q. Why not?

7 A. You showed me this document, Exhibit  
8 Number 8, and pointed to a particular paragraph,  
9 which I forget exactly which one it was.

10 Q. Are you referring to our discussion  
11 of "extraneous"?

12 A. Of "extraneous."

13 Q. No. We were discussing the  
14 interrogatory responses produced by Philip  
15 Morris, the words Philip Morris used. That's  
16 where our discussion of "extraneous" came from.

17 A. And the way it was stated was, no  
18 extraneous nicotine is brought into the RL  
19 process, meaning the whole facility plant, is the  
20 way I understood it. And you asked me what my  
21 definition of "extraneous" was.

22 And that was somebody going somewhere  
23 and buying something, in this case nicotine, and  
24 bringing it in and adding it to what was already  
25 there. Now, in this -- using that same

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11:50:54 2 definition, you've asked me if I were to take a  
11:50:58 3 material extracted from fiber already brought  
11:51:02 4 into the process, and for whatever reason  
11:51:08 5 happened to put some of that back in the pulper,  
11:51:08 6 is that extraneous per the definition I gave you  
11:51:08 7 earlier.

11:51:10 8 My answer was no. You just now asked  
11:51:14 9 me why not. And the why not is that that  
11:51:16 10 solubles with whatever is in it, including  
11:51:20 11 nicotine, came in with that fiber. So I have a  
11:51:24 12 fiber portion and a soluble portion. Whatever  
11:51:28 13 comes in that front door, I'm not changing it.

11:51:32 14 Q. The soluble material that's being  
11:51:36 15 recirculated back into the pulper to be mixed  
11:51:38 16 with new raw materials did not come from those  
11:51:40 17 new raw materials; is that correct?

11:51:48 18 A. I don't exactly understand what you  
11:51:48 19 just asked me.

11:51:52 20 Q. When solubles are recirculated back  
11:51:54 21 into the pulper, they are mixed with new raw  
11:51:56 22 materials; correct?

11:51:56 23 A. Yes.

11:51:58 24 Q. Raw materials that have not yet gone  
11:52:00 25 through the separation process of fiber and

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soluble separation; correct?

A. That's correct.

Q. When those solubles are recirculated back into the pulper to be mixed with those new raw materials, those solubles did not come from those raw materials; is that correct?

A. That's correct.

Q. But you don't consider those solubles that did not come from those raw materials to be extraneous to those raw materials?

A. In the context of the definition we had, absolutely not.

Q. In any sense of your understanding of the word "extraneous"?

A. No.

Q. What is broke in the context of the RL process?

A. Broke is base web.

Q. Is it a particular form of base web?

MR. NUNLEY: Objection as to form.

A. As far as I know there's only one form of base web.

Q. Is the word "broke" synonymous with "base web" in your understanding? They mean the

MANHATTAN REPORTING CORP.

2058459556



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11:53:06 2 exact same thing?

11:53:08 3 A. They mean the exact same thing to  
11:53:08 4 me.

11:53:18 5 Q. You don't understand broke to be  
11:53:24 6 pieces of base web that have been somehow chewed  
11:53:26 7 up in the process of producing the RL?

11:53:28 8 A. That would be base web.

11:53:32 9 Q. So they're not the exact same thing.

11:53:38 10 MR. NUNLEY: Exact same thing as  
11:53:38 11 what?

11:53:40 12 Q. Let me ask another question. Do you  
1 53:44 13 know if broke is recirculated in the RL process?

11:53:46 14 A. Yes, it is.

11:53:50 15 Q. Where is it recirculated from? What  
11:53:52 16 stage of the process?

11:53:56 17 A. From the machine formation. From the  
11:53:58 18 sheet formation.

11:54:00 19 Q. In the sheet formation, how is broke  
11:54:02 20 created?

11:54:14 21 A. Malfunctions in the machine.  
11:54:20 22 Malfunctions in downstream pieces of equipment.

11:54:22 23 Q. And those malfunctions produce  
11:54:32 24 chopped up pieces of the fiber, of the sheet, is  
1 54:32 25 that correct, the base web?

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11:54:32 2 A. No.

11:54:36 3 Q. What is the broke, then? In what  
11:54:38 4 form of the base web is broke?

11:54:46 5 A. What form? Broke is sheets, it's the  
11:54:54 6 tobacco base web collected up to be moved out of  
11:54:56 7 the way so that you can continue the process.

11:54:58 8 Q. And to where is the broke  
11:55:00 9 recirculated in the RL process?

11:55:06 10 A. The broke is put into the broke  
11:55:12 11 pulper. Water is added, and it's solubilized and  
11:55:16 12 it's pumped back into the machine chest to be  
11:55:16 13 made back into sheet.

11:55:20 14 Q. Is the broke pulper something  
11:55:22 15 distinct from the pulper we've been discussing  
11:55:22 16 previously?

11:55:22 17 A. Yes.

11:55:28 18 Q. Does the broke contain any solubles  
11:55:30 19 in it?

11:55:32 20 A. Some.

11:55:34 21 Q. Does the base web after it's been  
11:55:36 22 separated from the solubles still contain some  
11:55:38 23 solubles as well?

11:55:40 24 A. A very small amount, yes.

11:55:42 25 Q. Do you know how much as a percentage,

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11:55:42 2 as a weight percentage?

11:55:42 3 A. Not today, no.

11:55:46 4 Q. Have you known in the past?

11:55:50 5 A. Again, as before, I'm sure I did, but  
11:55:50 6 I don't recall what the number was.

11:56:00 7 Q. What is paraben in the context of the  
11:56:02 8 RL process?

11:56:08 9 A. Paraben is a preservative.

11:56:12 10 Q. Is that also added to the pulper in  
11:56:12 11 the RL process?

11:56:16 12 A. Not to my knowledge, no.

11:56:18 13 Q. Do you know if it is introduced at  
11:56:22 14 any point in the RL process?

11:56:26 15 A. My understanding is paraben is added  
11:56:30 16 to the liquid tobacco and put on at the size  
11:56:32 17 press.

11:56:38 18 Q. Do you know what the soluble  
11:56:46 19 percentage by weight of the raw materials the RL  
11:56:48 20 facility receives is?

11:56:52 21 MR. NUNLEY: Objection as to form.

11:56:56 22 You mean do you know what percentage on a <sup>dry weight</sup> raw

11:56:58 23 weight basis the solubles are of the raw

11:57:00 24 materials, is that the question?

11:57:02 25 MR. KILLORY: Let me break it down.

MANHATTAN REPORTING CORP.

2058459559

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11:57:04 2 Q. The raw materials that are received  
11:57:08 3 by the Park 500 facility for processing before  
11:57:10 4 they have been processed.

11:57:12 5 A. No, I don't know.

11:57:14 6 Q. You don't know by weight what  
11:57:14 7 percentage solubles represent?

11:57:16 8 A. No.

11:57:18 9 Q. Do you have any idea of a range?

11:57:22 10 A. No, I don't know the range.

11:57:26 11 Q. Is that regularly tested as part of  
11:57:28 12 the RL process at the receipt of raw materials  
11:57:28 13 stage?

11:57:32 14 A. The six years that I was at Park 500,  
11:57:34 15 I have no recollection of ever having a hot water  
11:57:36 16 solubles done on incoming raw materials.

11:57:40 17 Q. Do you know whether it's done today?

11:57:42 18 A. No, I do not.

11:57:54 19 Q. What are the sources from which Park  
11:57:56 20 500 receives raw materials for processing?

11:58:02 21 A. I don't know all the sources.

11:58:08 22 Q. Are they all domestic?

11:58:08 23 A. I don't know the answer to that  
11:58:08 24 either.

11:58:08 25 Q. You don't know whether raw materials

2058459560

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come in from international locations?

A. That's correct. I don't know.

Q. When is a hot water solubles test done?

MR. NUNLEY: Objection as to form.

What do you mean, when is one done?

MR. KILLORY: When in the process, what time frame.

Q. Your prior answer <sup>was that "I have</sup> to a question about receipt of materials is, "I have no recollection of ever having a hot water soluble done on incoming raw materials." My question is at what point in the process is that test done. Do you know?

A. They do a hot water solubles on finished sheet.

Q. Are you aware of any point in the process where the hot water solubles test is done?

A. No.

Q. Do you know what the target -- do you know if there's a target range for the percentage of hot water solubles in the finished sheet?

A. When I was at Park 500 there was a

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2 sheet specification that included hot water  
3 solubles. I presume there is still one. I have  
4 no idea what it is.

5 Q. Do you know what it was at the time  
6 you were at Park 500?

7 A. I don't remember exactly what it was.

8 Q. Do you remember approximately?

9 A. My recollection is it was  
10 approximately on the order of 46 to 48 percent.

11 Q. That was the target range?

12 A. As I recall.

13 Q. For the finished sheet?

14 A. For the finished sheet.

15 Q. What would happen if the testing of  
16 the hot water soluble content showed that the  
17 finished sheet had less than the target range?

18 MR. NUNLEY: Of what?

19 MR. KILLORY: Of hot water solubles.

20 A. If it had less than the target range  
21 it would be out of specification.

22 Q. And would an out of specification  
23 product be discarded?

24 A. Well, personally I don't -- part of  
25 our job in running the factory was not to make

2058459562

1 Merrill - Highly Confidential - Trade Secret  
12:00:38 2 out of specification material. So I can't  
12:00:40 3 remember any being out of specification for hot  
12:00:42 4 water solubles.

12:00:46 5 Q. In your time at Park 500 you were  
12:00:48 6 never aware of an instance where the hot water  
12:00:52 7 soluble content was outside of the specification  
12:00:52 8 range?

12:00:54 9 A. That's correct.

12:00:58 10 Q. Have you ever heard of that happening  
12:01:00 11 since the time you've been at Park 500?

12:01:02 12 A. No.

12:01:34 13 Q. How frequently during the time you  
12:01:40 14 were at Park 500, how frequently was hot water  
12:01:44 15 soluble testing of the finished sheet done?

12:01:48 16 A. I don't recall the frequency that we  
12:01:50 17 actually did it.

12:01:52 18 Q. Do you have any idea how frequently  
12:01:54 19 it was done?

12:02:02 20 A. Other than once a shift, no.

12:02:08 21 Q. So it was done once a shift at  
12:02:08 22 least?

12:02:08 23 A. I believe it was done at least once a  
12:02:08 24 shift.

12:02:10 25 Q. And in your recollection, never in

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12:02:14 2 that once a shift testing did the hot water  
12:02:16 3 solubles test out of the specification range?

12:02:18 4 A. That I'm aware of, that's correct.

12:02:24 5 Q. In the positions you've held at Park  
12:02:26 6 500, would you have been aware of testing of the  
12:02:28 7 hot water solubles that showed they were out of  
12:02:30 8 specification range?

12:02:34 9 A. Only for part of it.

12:02:36 10 Q. In what position?

12:02:44 11 A. As the superintendent I would have,  
12:02:48 12 and there may have been occasions as the process  
12:02:52 13 engineer, I might have as -- part of my job would  
12:02:56 14 be to find out why and what to do about it, to  
12:02:58 15 prevent it from happening again.

12:03:02 16 Q. But that never happened in your  
12:03:04 17 experience; is that right?

12:03:04 18 A. Not that I remember.

12:03:10 19 Q. Are there other variables tested for  
12:03:14 20 the finished sheet?

12:03:16 21 A. Yes.

12:03:16 22 Q. What are those variables?

12:03:24 23 A. Well, moisture content, additives,  
12:03:32 24 humectants, preservatives.

12:03:34 25 Q. Do those variables also have

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2058459564



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12:03:38 2 specification ranges as well?

12:03:42 3 A. I'm sure they do.

12:03:44 4 Q. Do you recall whether in your  
12:03:46 5 experience at Park 500 or anything you've learned  
12:03:52 6 since that those elements ever tested outside of  
12:03:54 7 the specification range?

12:03:56 8 A. No.

12:03:58 9 Q. Do you know whether the raw materials  
12:04:02 10 that come into Park 500 vary in their soluble  
12:04:04 11 content?

12:04:06 12 A. Yes, they do.

12:04:10 13 Q. Do you know by a ball park figure  
12:04:12 14 what percentage they vary?

12:04:14 15 A. No, not really.

12:04:16 16 Q. Can they vary by as much as 100  
12:04:18 17 percent?

12:04:20 18 MR. NUNLEY: One being completely  
12:04:22 19 solubles and one being completely dry?

12:04:24 20 Q. Percentage of solubles can vary by  
12:04:28 21 100 percent. If the solubles are 20 percent in  
12:04:30 22 one batch of raw materials and 40 percent in  
12:04:34 23 another batch of materials, is that -- do you  
12:04:36 24 understand that to be 100 percent variation?

12:04:38 25 A. What are you referring to as

MANHATTAN REPORTING CORP.

2058459565

Merrill - Highly Confidential - Trade Secret

"batch"?

Q. One set of raw materials at one point in time and another set of raw materials at another point in time. Can there be variation between those raw materials? I believe you testified yes; is that correct?

A. That's correct.

Q. And my question was could the variation could be as much as 100 percent.

A. I don't honestly know.

Q. If there is variation in the raw materials coming into the RL processing facility and there's a specification range at the other end that is constant -- is the specification range at the other end constant?

A. I have no idea.

Q. How during your experience at Park 500 did Philip Morris ensure these raw materials with different soluble contents arrived within the specification range for the finished product?

MR. NUNLEY: That presumes they were outside of it when they started. I don't think that's the testimony at all.

MANHATTAN REPORTING CORP.

2058459566

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Q. Do you know whether the soluble content of raw materials can vary more than a few percent?

A. I know the raw materials that Park 500 receives, the solubility is different in some of them from -- A is different from B. Outside of that, that's all I can tell you.

Q. How about year to year variations? My understanding is that tobacco crop can vary dramatically in its nicotine content, for example, year to year. Is that true?

A. That's correct.

Q. Would the raw materials coming into Park 500 on a year to year basis similarly vary in their nicotine content?

MR. NUNLEY: Well, objection.

Mr. Killory, your question suggests that all the materials that come in in a given run are taken from the same year. That's not borne out by the facts in the record.

Q. Did you understand my question?

A. I think you actually changed it around, so no, I don't. Would you just read it back? Read the last two questions back, please.

MANHATTAN REPORTING CORP.

2058459567

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Q. Would the raw materials coming into Park 500 on a year to year basis similarly vary in their nicotine content, and the "similarly" referenced the prior question and answer where we established that tobacco products on a year to year basis vary in their nicotine content.

MR. NUNLEY: Mr. Killory, does your question assume that the raw materials come --

MR. KILLORY: My question is simply what the question has asked. It doesn't assume anything. It's a straightforward question. If the answer is what he has testified, the witness can give that testimony as well. But clearly if that's the answer he can give --

MR. NUNLEY: Your question is vague because it doesn't explain what you mean by "on a year to year basis." Do you mean that regardless of the crop year when it comes into Park 500 is what you're referring to as a year to year basis, or are you referring to the crop year as a year to year basis? Which is it?

MR. KILLORY: The raw materials coming into Park 500 vary in their nicotine content. Let's start with that.

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12:07:50 2 A. Can we back up one more? Because I  
12:07:52 3 think you switched on me somewhere.

12:07:58 4 Q. Do you know whether the soluble  
12:08:00 5 content of raw materials can vary more than a few  
12:08:06 6 percent? "I know the raw materials that Park 500  
12:08:06 7 receives, the solubility is different in some of  
12:08:08 8 them from -- A is different from B. Outside of  
12:08:08 9 that, that's all I can tell you."

12:08:12 10 "How about year to year variations?  
12:08:14 11 My understanding is the tobacco crop can vary  
12:08:16 12 dramatically in its nicotine content, for  
12:08:18 13 example, year to year. Is that true?" "That's  
12:08:18 14 correct."

12:08:20 15 "Would the raw materials coming into  
12:08:22 16 Park 500 on a year to year basis similarly vary  
12:08:26 17 in their nicotine content?" And we had a series  
12:08:28 18 of objections.

12:08:30 19 A. I didn't know we left the solubles.  
12:08:30 20 I thought you were trying to clarify the  
12:08:32 21 solubles. Then you asked me a completely  
12:08:34 22 different question than the one I expected.

12:08:36 23 Q. Do you want to correct your answer to  
12:08:38 24 the -- when I asked you about variations in  
12:08:42 25 tobacco crop, nicotine variations, did you

1 Merrill - Highly Confidential - Trade Secret

12:08:44 2 understand that to mean solubles, not nicotine?

12:08:44 3 A. That's correct.

12:08:48 4 Q. Okay. Now that you understand it as  
12:08:50 5 I asked it, referring to nicotine, is your answer  
12:08:52 6 different?

12:08:54 7 A. If you would restate the question so  
12:08:56 8 I know exactly what you're asking me.

12:08:58 9 Q. I'll be happy to. My understanding  
12:09:00 10 is the tobacco crop can vary dramatically in its  
12:09:02 11 nicotine content, for example year to year.

12:09:04 12 Is that true?

12:09:04 13 MR. NUNLEY: Objection to form. I  
12:09:06 14 don't know what you mean by "dramatically."

12:09:14 15 A. The nicotine content can vary year to  
12:09:16 16 year.

12:09:16 17 Q. Do you have any idea by how much it  
12:09:18 18 can vary?

12:09:22 19 A. Upwards of 100 percent.

12:09:30 20 Q. Do you know whether there are similar  
12:09:34 21 variations in the nicotine content of the raw  
12:09:36 22 materials received at the RL facility?

12:09:40 23 A. No, I do not.

12:09:54 24 Q. Do you know if there are similar  
12:09:56 25 variations in the soluble content of the raw

MANHATTAN REPORTING CORP.

2058459570

1 Merrill - Highly Confidential - Trade Secret  
12:09:58 2 materials received at the RL facility?

12:10:00 3 MR. NUNLEY: What do you mean by  
12:10:00 4 "similar variations?"

12:10:02 5 MR. KILLORY: *Variations of up to*  
*Variation was* 100  
12:10:06 6 percent paralleling the variations in tobacco  
12:10:08 7 nicotine content.

12:10:20 8 A. No, I do not.

12:10:22 9 Q. In your experience, familiarity with  
12:10:24 10 Park 500, do you know whether it's ever necessary  
12:10:28 11 to shed solubles so as to reach the specification  
12:10:30 12 levels for the finished sheet?

12:10:36 13 A. Would you define "shed"?

12:10:36 14 Q. Do you have any understanding as to  
12:10:40 15 shedding of solubles?

12:10:40 16 A. Only in connection with this  
12:10:46 17 particular case, through my attorneys.

12:10:48 18 Q. I'm not asking for your discussions  
12:10:50 19 with the attorneys. My only question is do you  
12:10:54 20 have any understanding of shedding solubles. How  
12:10:58 21 about discarding? Do you understand what I mean,  
12:11:04 22 to discard solubles in the RL process?

12:11:04 23 Let me ask a different question. Did  
12:11:08 24 you ever -- are you familiar with the discarding  
12:11:10 25 of solubles in the RL process?

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12:11:20 2 A. Am I familiar? I have heard that  
12:11:22 3 solubles have been discarded.

12:11:26 4 Q. In your six years there, were you  
12:11:28 5 ever aware of solubles being discarded?

12:11:32 6 A. During the six years that I was at  
12:11:38 7 Park 500, the only solubles that were not  
12:11:42 8 generally used in the process or lost otherwise  
12:11:44 9 is during a shutdown we would collect some  
12:11:48 10 solubles for the waste treatment plant.

12:11:52 11 During my six years we never had an  
12:11:54 12 excess of solubles that I recall.

12:11:58 13 Q. Do you know whether the variation in  
12:12:04 14 soluble content of raw materials received at Park  
12:12:10 15 500 ever exceeded the variation permitted in the  
12:12:12 16 specification range for the finished product?

12:12:16 17 MR. NUNLEY: Objection as to form.

12:12:24 18 A. You have asked me, if I heard you  
12:12:30 19 correctly, does the variation in the solubles  
12:12:34 20 received at Park 500, does the variation there  
12:12:42 21 exceed the variation of the finished sheet.

12:12:44 22 Q. Let me ask it in easier terms. You  
12:12:46 23 previously testified that the finished sheet  
12:12:48 24 specification as best you could recall at the  
12:12:52 25 time you were at Park 500 was 46 to 48 percent.

MANHATTAN REPORTING CORP

2058459572



Merrill - Highly Confidential - Trade Secret

Is that right?

A. That's correct.

Q. For the content by weight, soluble content by weight of the finished product; is that correct?

A. That's correct.

Q. That variation, 46 to 48 percent, is approximately a 4 percent -- a little over 4 percent variation, is that correct, from 46 to 48 percent? 2 percentage points as a percentage of 48 is in the neighborhood of 4 percent variation?

A. Yes, it is.

Q. Do you know whether the soluble content of the raw materials received at Park 500 during the time you were there ever varied by more than 4 percent?

MR. NUNLEY: Objection. Mr. Killory, your question I believe assumes that the solubles in the finished product are all tobacco solubles. I think that's the only way your question can really make any sense. I think you need to establish whether that's the case or if there are other solubles in the finished product.

MANHATTAN REPORTING CORP.

2058459573

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12:13:48 2 MR. KILLORY: Right now I'll stand  
12:13:50 3 with the question I have.

12:13:50 4 MR. NUNLEY: Then I'll object because  
12:13:52 5 it's misleading.

12:13:52 6 MR. KILLORY: Fine.

12:13:54 7 Q. You can answer the question. Do you  
12:13:56 8 know whether the soluble content of the incoming  
12:13:58 9 raw materials at Park 500 at the time you were  
12:14:00 10 there ever varied by more than 4 percent?

12:14:02 11 A. No, I don't know that <sup>it</sup> they did.

12:14:16 12 Q. Mr. Merrill, I'm handing you a  
12:14:22 13 document I have not marked as an exhibit. It's a  
12:14:22 14 document that was Exhibit Number 32 to the  
12:14:24 15 Burnley deposition.

12:14:24 16 MR. NUNLEY: Do you have another copy  
12:14:26 17 for counsel?

12:14:26 18 MR. KILLORY: I'm not going to ask  
12:14:30 19 any questions about the pages. I just want to  
12:14:32 20 have the witness see the cover page.

12:14:40 21 Q. My question is, looking at the cover  
12:14:44 22 of this document, "RL overview," do you recall  
12:14:46 23 ever having seen it before?

12:14:48 24 MR. NUNLEY: It's called "RL process  
12:14:48 25 overview."

MANHATTAN REPORTING CORP.

2058459574

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12:14:50 2 MR. KILLORY: "RL process overview,"  
12:14:52 3 excuse me.

12:14:52 4 A. No.

12:15:00 5 Q. In your time at Park 500, did you  
12:15:06 6 ever prepare any document that gave an overview  
12:15:06 7 of the RL process?

12:15:08 8 A. No.

12:15:12 9 Q. So to the best of your recollection,  
12:15:14 10 you have never seen this document before?

12:15:14 11 A. I have never seen this document  
12:15:20 12 before. Based on the cover page.

12:15:22 13 Q. Would it help you to -- I don't want  
12:15:24 14 to have you read the entire document. Would it  
12:15:26 15 help you to look at, just skim through to  
12:15:28 16 identify whether the document is familiar to  
12:15:30 17 you? Would you please do that.

12:15:32 18 (Witness complies.)

12:15:38 19 A. No, never.

12:15:40 20 Q. Based on your skimming through of the  
12:15:42 21 document, you don't recall having seen that  
12:15:44 22 description of the RL process?

12:15:48 23 A. No, I have never seen what's  
12:15:50 24 contained in here as it is.

12:15:56 25 THE VIDEO OPERATOR: We're going off

2058459575

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12:15:58 2 the record. This is the end of videotape number  
12:16:06 3 4. The time on the screen is 12:16:04.  
12:16:26 4 (A recess was taken.)  
12:28:26 5 THE VIDEO OPERATOR: This is  
12:28:30 6 videotape number 5, the continuation of the  
12:28:34 7 deposition of Mr. Merrill. Today is June 30th,  
12:28:40 8 1995. The time on the screen is 12:28:38.  
12:28:40 9 You're on the record.  
12:28:42 10 Q. Mr. Merrill, in addition to the  
12:28:48 11 solubles contained in the incoming raw materials,  
12:28:50 12 are there additional solubles added in the course  
12:28:52 13 of the RL production process?  
12:29:06 14 A. Yes, if I understand the question  
12:29:06 15 correctly.  
12:29:08 16 Q. What are those solubles?  
12:29:14 17 A. Some of the solubles are things such  
12:29:24 18 as humectants, sugar, flavors, preservatives.  
12:29:32 19 Q. Are you familiar with any of the  
12:29:36 20 flavors that are added to the RL product?  
12:29:46 21 A. Perhaps some. I'm not sure whether  
12:29:54 22 they're flavors or whether they're for things  
12:29:58 23 like preservatives per se. I don't know.  
12:30:00 24 Q. Can you identify any items that you  
12:30:00 25 understand to be flavors?

MANHATTAN REPORTING CORP.

2058459576

Merrill - Highly Confidential - Trade Secret

12:30:10 2 A. Sugar.

12:30:12 3 Q. Any others?

12:30:18 4 A. I'm not -- well, during my time at  
12:30:22 5 Park 500 it used to be ground cocoa shells. I  
12:30:24 6 don't know what they're using today.

12:30:26 7 Q. Do you know where the ground cocoa  
12:30:28 8 shells that were used came from?

12:30:34 9 A. A supplier.

12:30:38 10 Q. Do you know where that supplier was  
12:30:38 11 located?

12:30:38 12 A. No.

12:30:40 13 Q. International or domestic, do you  
12:30:40 14 know?

12:30:40 15 A. No, I don't.

12:30:42 16 Q. Have you heard of a flavor called  
12:30:44 17 Cochise?

12:30:48 18 A. I remember the term Cochise.

12:30:50 19 Q. Do you know what that term means? In  
12:30:52 20 the context of the RL process.

12:31:06 21 A. I don't remember specifically which  
12:31:12 22 piece it addresses. I think it was cocoa  
12:31:14 23 shells.

12:31:16 24 Q. Do you know whether cocoa shells are  
12:31:20 25 still used today in the RL process?

MANHATTAN REPORTING CORP

2058459577

1 Merrill - Highly Confidential - Trade Secret

12:31:22 2 A. I have no idea.

12:31:24 3 Q. How about Juneau? Is that a flavor?

12:31:32 4 A. I remember the term Jono, J-o-n-o.

12:31:34 5 Q. Jono, excuse me.

12:31:36 6 A. But that's all I remember.

12:31:46 7 Q. Do you know what, as a percentage by  
12:31:56 8 weight, what the percentage content of the  
12:32:00 9 overall finished product solubles are represented  
12:32:02 10 by the flavors that are added?

12:32:10 11 A. Let me answer it this way. I think I  
12:32:12 12 know what you're asking me but I'm not sure. If  
12:32:16 13 I have a hundred pounds of finished sheet and the  
12:32:20 14 specification is 48 percent hot water solubles  
12:32:24 15 for the finished sheet, that means 48 pounds are  
12:32:26 16 solubles. 12 of those pounds would be those  
12:32:32 17 materials, and 36 pounds would be the soluble  
12:32:34 18 tobacco portion.

12:32:38 19 Q. And when you say "those materials" in  
12:32:40 20 that last response, which materials were you  
12:32:42 21 referring to?

12:32:46 22 A. The humectants, sugar.

12:32:48 23 Q. All of the additives including the  
12:32:50 24 flavors?

12:32:52 25 A. Including -- wait a minute.

2058459578

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12:32:56 2 Q. Is a humectant a flavor?

12:32:56 3 A. Including the flavors, right.

12:32:58 4 Q. I wanted to clearly distinguish, was  
12:33:00 5 it additives or flavors -- were the 12 pounds  
12:33:02 6 that you gave, that referred to all of the  
12:33:04 7 soluble additives?

12:33:04 8 A. That's correct.

12:33:14 9 Q. And what's the basis for your  
12:33:18 10 knowledge of that 12 pounds of the 48 pounds?

12:33:26 11 A. That's what the materials were being  
12:33:28 12 added when I was at Park 500.

12:33:30 13 Q. Was that part of a specification  
12:33:32 14 sheet?

12:33:32 15 A. Yes, it was.

12:33:46 16 MR. NUNLEY: Witch number 2.

12:34:00 17 Q. Let me hand you a document -- well,  
12:34:00 18 let's have it marked.

19 (Merrill Exhibit 12 for  
20 identification, memorandum from J. Pickelhaupt to  
21 distribution, subject, line 1 blending chemicals,  
22 dated June 18, 19<sup>9</sup>3.)

12:34:32 23 MR. NUNLEY: Mr. Court Reporter, my  
12:34:38 24 comment was "witch," w-i-t-c-h, "number two."

12:34:44 25 Q. Mr. Merrill, the court reporter has

2058459579

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12:34:46 2 handed you a document that has been marked as

12:34:52 3 Merrill Exhibit 12. It's a two-page document

12:34:58 4 bearing the Bates stamp PA 404743 through 44.

12:35:04 5 The production numbers are 2024797858 through

12:35:10 6 59. ~~Take~~ <sup>Could you take a look</sup> a look at Exhibit 12, please.

12:35:12 7 (Witness complies.)

12:36:22 8 Q. Have you had a chance to look at  
12:36:24 9 Merrill Exhibit Number 12, Mr. Merrill?

12:36:24 10 A. Yes, I have.

12:36:30 11 Q. It's a memorandum from J. Pickelhaupt  
12:36:32 12 to distribution, subject, line 1 blending  
12:36:38 13 chemicals, dated June 18, 1983. The stationery  
12:36:40 14 is Park 500 environmental services interoffice  
12:36:44 15 correspondence. Is Park 500 environmental  
12:36:48 16 services part of your office?

12:36:48 17 A. No, they are not.

12:36:52 18 Q. Is there any relationship, reporting  
12:36:54 19 relationship between Park 500 environmental  
12:36:56 20 services and your environmental compliance  
12:36:56 21 office?

12:37:00 22 A. There is a dotted line relationship  
12:37:06 23 which basically relates to <sup>Training and</sup> ~~things like~~  
12:37:08 24 information flows such as permitting and things  
12:37:08 25 like that.

2058459580



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12:37:12 2 Q. On the dotted line, does the Park 500  
12:37:14 3 environmental services report to your office?

12:37:18 4 A. Repeat that. They're not part of my  
12:37:20 5 office and I see very little correspondence from  
12:37:20 6 them.

12:37:24 7 Q. But you said there's a dotted line  
12:37:26 8 relationship. My question was only to the extent  
12:37:28 9 on that dotted line relationship whether the  
12:37:32 10 reporting function, to the extent there is one,  
12:37:36 11 goes from the Park 500 environmental services to  
12:37:40 12 your office or from your office to Park 500  
12:37:42 13 environmental services.

12:37:44 14 MR. NUNLEY: Objection as to form.

12:37:44 15 A. I don't understand your question.  
12:37:46 16 You're asking me two questions. *I think*

12:37:48 17 Q. Could you explain again what the  
12:37:52 18 dotted line relationship is between the Park 500  
12:37:54 19 environmental services and your office?

12:37:58 20 A. If we're preparing a permit we would  
12:38:00 21 get the appropriate information from Park 500  
12:38:04 22 environmental services to fill in the blanks for  
12:38:06 23 the application for that permit.

12:38:08 24 Q. Other than that information function,  
12:38:10 25 was there a training function as well?

MANHATTAN REPORTING CORP.

2058459581

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12:38:12 2 A. And training.

12:38:14 3 Q. Could you describe that?

12:38:24 4 A. Hazardous waste, DOT, following the  
12:38:26 5 DOT rules and regs, making sure the people are  
12:38:28 6 trained according to the regulations

12:38:30 7 Q. Would that be your office training  
12:38:32 8 people from Park 500 environmental services?

12:38:32 9 A. That's correct.

12:38:38 10 Q. Do you know who Mr. Pickelhaupt is?

12:38:40 11 A. John Pickelhaupt, yes, I do.

12:38:44 12 Q. What's his position? What was his  
1 38:48 13 position in June of '93, if you know?

12:38:50 14 A. John's position was, I believe,  
12:38:52 15 environmental engineer.

12:38:54 16 Q. Do you know if he's still with Park  
12:38:56 17 500 environmental services?

12:38:58 18 A. No, he is not.

12:38:58 19 Q. Do you know what his current position  
12:38:58 20 is?

12:39:06 21 A. Superintendent in the maintenance  
12:39:08 22 department.

12:39:14 23 Q. The chemicals listed on the two -- on  
12:39:16 24 the first page, and there's a carryover to the  
1 39:20 25 <sup>second</sup>  
~~next~~ page of Merrill Exhibit Number 12, are those

2058459582

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12:39:24 2 chemicals included within the additives that  
12:39:26 3 we've been previously discussing?  
12:39:28 4 MR. NUNLEY: Objection.  
12:39:34 5 MR. KILLORY: Let me just clarify.  
12:39:34 6 Q. Those additives are the additives  
12:39:36 7 added to the RL product in the RL processing?  
12:39:38 8 MR. NUNLEY: Objection. Compound.  
12:39:48 9 A. Not that I'm aware of, no.  
12:39:48 10 Q. Do you know what, starting with the  
12:39:54 11 top of that list, what "dispersant 100 PG" refers  
12:39:54 12 to?  
12:39:56 13 A. Not specifically, no.  
12:39:56 14 Q. Do you know generally what it is?  
12:39:58 15 A. No.  
12:40:00 16 Q. You don't know what its role in the  
12:40:02 17 RL process is?  
12:40:04 18 A. I don't know that it has a role in  
12:40:06 19 the RL process.  
12:40:12 20 Q. Do you know why it would be stored in  
12:40:14 21 line 1 blending area?  
12:40:16 22 A. Yes.  
12:40:16 23 Q. Why?  
12:40:20 24 A. Blending in line 1 is a rather large  
12:40:24 25 room that has large open space available to store

MANHATTAN REPORTING CORP.

2058459583

1 Merrill - Highly Confidential - Trade Secret  
12:40:26 2 materials.

12:40:30 3 Q. How about "sodium hypochlorite  
12:40:36 4 (bleach)"? Do you know what that chemical is?

12:40:38 5 A. Yes, I do.

12:40:40 6 Q. Does it have a role in the production  
12:40:40 7 of the RL product?

12:40:44 8 A. The bleach is used to disinfect the  
12:40:46 9 lines that the material is pumped through.

12:40:54 10 Q. Do you know what dispersant 100 PG is  
12:40:56 11 used for?

12:40:58 12 A. I don't know what it is.

12:41:02 13 Q. How about Ram Tex? What is Ram Tex?

12:41:04 14 A. No. Do not know what it is.

12:41:06 15 Q. And have no knowledge of whether it's  
12:41:08 16 used in the process?

12:41:10 17 A. No, I do not.

12:41:14 18 Q. How about BL 1302? Do you know what  
12:41:14 19 that is?

12:41:16 20 A. No.

12:41:22 21 Q. How about sodium hydroxide, caustic?

12:41:28 22 A. They -- the sodium hydroxide I'm  
12:41:32 23 aware of that's used at Park 500 is to adjust pH  
12:41:32 24 of the water.

12:41:38 25 Q. So sodium hydroxide is added to the

1 Merrill - Highly Confidential - Trade Secret  
12:41:40 2 water to adjust the pH level of the water?

12:41:42 3 A. That's the only awareness I have of  
12:41:44 4 sodium hydroxide being used at Park 500.

12:41:48 5 Q. What water is it added to at Park  
12:41:48 6 500?

12:41:50 7 A. Park 500 gets its water from the  
12:41:52 8 James River. So occasionally the pH has to be  
12:41:54 9 adjusted.

12:41:56 10 Q. And this is the water that's used in  
12:41:58 11 the production process of the RL; is that  
12 12 correct?

12:41:58 13 A. That's correct.

12:42:02 14 Q. Do you recognize what CL 1436 is?

12:42:10 15 A. I don't know specifically on the CLs  
12:42:12 16 what any individual one is, but it's my  
12:42:16 17 understanding that those items at least  
12:42:18 18 designated with a CL, those are water treatment  
12:42:20 19 chemicals. They're biocides.

12:42:22 20 Q. I'm sorry. The last --

12:42:22 21 A. Biocides.

12:42:26 22 Q. What's that? Biocide, is that  
12:42:32 23 b-i-o-c-i-d-e?

12:42:34 24 A. I'm not sure how you spell it. But  
12:42:34 25 when you have any -- I mean, there are biocides

2058459585

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12:42:36 2 being used in this building. When you have water  
12:42:42 3 that's used to go <sup>through</sup> ~~five~~ chillers to provide cold  
12:42:44 4 air, you have to get rid of the heat in the  
12:42:46 5 cooling tower.

12:42:48 6 So you're circulating water that's  
12:42:50 7 exposed to air, and there's things in the air,  
12:42:52 8 there's yeasts, there's other types of bacteria.  
12:42:54 9 So in order to prevent them from growing in your  
12:43:00 10 system you apply biocides and things such as  
12:43:00 11 that.

12:43:02 12 And you also have to have sufficient  
12:43:06 13 ones so that you rotate them, because much as  
12:43:08 14 we've evolved, depending on what you believe,  
12:43:12 15 from different things, these little bacteria  
12:43:16 16 reproduce very frequently, so they can become  
12:43:18 17 very used to a given chemical.

12:43:20 18 So you have to keep switching the  
12:43:22 19 chemicals in and out to keep them confused. So  
12:43:26 20 these items marked with a CL are biocides, to the  
12:43:26 21 best of my knowledge.

12:43:30 22 Q. Do you know what CL stands for? Does  
12:43:32 23 it have a particular meaning?

12:43:34 24 A. Well, the biocides come from  
12:43:36 25 Chemtreat, but they've always marked their drums

MANHATTAN REPORTING CORP.

2058459586

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12:43:40 2 CL. I don't know what <sup>it</sup>CL stands for.

12:43:40 3 Q. So the different numbers simply  
12:43:44 4 refer, to the best of your understanding, to  
12:43:46 5 different variations of biocide formulations?

12:43:46 6 A. That's correct.

12:43:50 7 Q. And these biocides are added to the  
12:43:52 8 water in the RL process, is that right, to  
12:43:54 9 achieve the purpose you described?

12:43:54 10 A. No, they're not.

12:43:56 11 Q. Okay. How are they used?

12:44:00 12 A. These biocides are adding to -- are  
12:44:04 13 added to the water in the utilities systems. So  
12:44:08 14 that's -- they're in the air washers, they're in  
12:44:12 15 the water that's used to cool the building. None  
12:44:14 16 of those are used in the water that touches the  
12:44:16 17 tobacco. They're used in the building system  
12:44:16 18 water.

12:44:20 19 Q. And am I correct that the caustic --  
12:44:24 20 the sodium hydroxide is used in the water that  
12:44:26 21 does touch the tobacco in the process; is that  
12:44:26 22 correct?

12:44:28 23 A. To the best of my knowledge.

12:44:32 24 Q. Do you know what Ucartherm is?

12:44:32 25 A. No, I don't.

2058459587

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12:44:34 2 Q. And you don't have any knowledge as  
12:44:36 3 to how it's used in the RL facility?

12:44:38 4 A. No, I don't.

12:44:42 5 Q. How is hydrogen peroxide used, do you  
12:44:42 6 know?

12:44:48 7 A. I'm not sure how they're using  
12:44:50 8 hydrogen peroxide.

12:45:10 9 Q. In your knowledge of the RL process,  
12:45:12 10 was the color of the finished sheet, the RL  
12:45:16 11 color, one of the specifications?

12:45:18 12 A. Not that I recall, no.

12:45:20 13 Q. Do you ever recall any examination of  
12:45:24 14 the finished sheet for its color?

12:45:26 15 A. No.

12:45:30 16 Q. Any other factors for which the  
12:45:34 17 finished sheet was examined besides the items  
12:45:34 18 we've discussed already?

12:45:40 19 MR. NUNLEY: Objection as to form. I  
12:45:42 20 don't know that those items are readily apparent  
12:45:44 21 from the record.

12:45:58 22 A. Not that I recall, no.

12:46:02 23 Q. Have you ever used or heard the term  
12:46:04 24 in the context of the RL production process, "old  
12:46:04 25 liquor"?

MANHATTAN REPORTING CORP.

2058459588



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12:46:08 2 A. No.

12:46:14 3 Q. What does "liquor" refer to in  
12:46:14 4 connection with the RL process?

12:46:22 5 A. The soluble portion is often referred  
12:46:22 6 to as liquor.

12:46:28 7 Q. Do you know what the shelf life of  
12:46:32 8 liquor is in the RL process?

12:46:34 9 A. Under what conditions?

12:46:36 10 Q. Does it vary depending on the  
12:46:36 11 conditions?

12:46:38 12 A. Yes.

12:46:40 13 Q. What are the conditions that cause it  
12:46:40 14 to vary?

12:46:44 15 A. Well, since it's an organic material  
12:46:48 16 just like milk, butter, cheese, the colder you  
12:46:50 17 keep it the longer you can keep it.

12:46:52 18 Q. In the conditions maintained  
12:46:54 19 typically at the RL facility, what's the shelf  
12:46:56 20 life?

12:47:00 21 A. I'm not sure exactly what it would  
12:47:00 22 be.

12:47:02 23 Q. Do you know approximately?

12:47:10 24 A. Again, depending on the time of year,  
12:47:12 25 ten days to maybe a month. I don't know.

MANHATTAN REPORTING CORP.

2058459589

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12:47:18 2 Q. How is it stored?

12:47:26 3 A. Well, when I was at Park 500 from '76  
12:47:28 4 to '82, I mean, it wasn't truly stored. It was  
12:47:34 5 all in process. So you had a tank where you  
12:47:38 6 collected the evaporator feed. You fed it to the  
12:47:40 7 evaporator. You had the evaporated product  
12:47:46 8 called CEL and then DNCEL. And then you made  
12:47:48 9 size and you put it on the sheet.

12:47:52 10 So, I mean, you had the evaporator  
12:47:54 11 feed tank, the CEL tank, the DNCEL tank. There  
12:47:58 12 was no storage. It was all in process.

12:47:58 13 Q. What was the capacity at the time you  
12:48:02 14 were at the Park 500 facility, the capacity of  
12:48:04 15 the CEL tank?

12:48:08 16 A. I don't recall the exact capacity.

12:48:10 17 Q. How about the DNCEL tank?

12:48:12 18 A. The CEL and DNCEL tanks were the same  
12:48:14 19 size. I don't recall how much they held.

12:48:18 20 Q. Do you know how many tanks there were  
12:48:20 21 for each line?

12:48:22 22 MR. NUNLEY: Objection as to form.  
12:48:24 23 Compound question.

12:48:32 24 A. As I recall, they were two CEL tanks  
12:48:42 25 and two DNCEL tanks for each line, 1 and 2.

MANHATTAN REPORTING CORP.

2058459590

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Q. In the context of the RL facility, do you know what "the lab" refers to?

A. Not in those terms, no.

Q. What is it about the term that is confusing in the way I put it?

A. There were several.

Q. There were several labs at Park 500?

A. Mm-hmm. That's correct.

Q. What were the labs?

A. You had the wastewater treatment lab, you had the boiler house lab, and you had the quality lab.

Q. Do you know whether those three labs still exist today at Park 500?

A. No, I do not.

Q. What functions were performed by the quality lab?

A. I don't know what all the functions were.

Q. What were the functions, to the best of your knowledge?

A. They did the finished sheet hot water solubles.

Q. They did the testing of the finished

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2058459591

1 Merrill - Highly Confidential - Trade Secret  
12:49:52 2 sheet hot water solubles to ensure they were  
12:49:52 3 within the specifications?

12:49:54 4 A. Specifications. And they did the  
12:49:56 5 moisture.

12:49:58 6 Q. When you say they did the moisture,  
12:50:02 7 testing for moisture content of the finished  
12:50:02 8 sheet?

12:50:04 9 A. In the finished sheet, that's  
12:50:04 10 correct.

12:50:06 11 Q. Anything else?

12:50:08 12 A. And they did a test that I remember  
12:50:12 13 called consistency. That's a paper term for how  
12:50:14 14 much fiber is in the water.

12:50:18 15 Q. Where is that test taken?

12:50:22 16 MR. NUNLEY: What exactly do you  
12:50:24 17 mean, Mr. Killory? Where is it performed or --

12:50:26 18 MR. KILLORY: Where in the process.  
12:50:26 19 At what stage in the process.

12:50:28 20 MR. NUNLEY: Is the sample taken to  
12:50:30 21 do the test?

12:50:30 22 MR. KILLORY: That's correct.

12:50:36 23 A. I don't -- it was -- the sample was  
12:50:40 24 taken in the machine room. I can't tell you  
12:50:44 25 specifically where they took the samples. I

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12:50:44 2 don't really remember.

12:50:48 3 Q. And why was that test taken? What  
12:50:50 4 was its purpose?

12:50:54 5 A. The consistency is a factor in  
12:50:58 6 forming a good ~~type~~<sup>right</sup> base web.

12:51:04 7 Q. How about the wastewater treatment  
12:51:06 8 lab? Does that still exist?

12:51:08 9 A. I believe it does, yes.

12:51:08 10 Q. Is there testing that's done by the  
12:51:10 11 wastewater treatment lab?

12:51:12 12 A. Yes, there is.

12:51:14 13 Q. Do you know what they test for?

12:51:16 14 A. Not specifically, no.

12:51:16 15 Q. Do you know generally what they test  
12:51:18 16 for?

12:51:20 17 A. They test -- they test the parameters  
12:51:24 18 required by the wastewater discharge permit.

12:51:26 19 Q. Do those parameters include nicotine  
12:51:26 20 content?

12:51:30 21 A. Not that I'm aware of, no.

12:51:38 22 Q. Are you familiar with diammonium  
12:51:44 23 phosphate, sometimes referred to as DAP?

12:51:44 24 A. Yes.

12:51:48 25 Q. What is diammonium phosphate?

MANHATTAN REPORTING CORP.

2058459593

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12:52:00 2 A. Diammonium phosphate, I don't --

12:52:00 3 Q. Is it a chemical?

12:52:02 4 A. Yes, it's a chemical.

12:52:02 5 Q. What is it used for?

12:52:04 6 A. It's one of the additives in the size  
12:52:04 7 at Park 500.

12:52:06 8 Q. Why is it added to the size?

12:52:08 9 A. I have no idea.

12:52:10 10 Q. When you refer to size, we haven't  
12:52:12 11 referred to that term in the record so far. What  
12:52:14 12 do you mean by the size?

12:52:18 13 A. Size is the soluble tobacco materials  
12:52:24 14 and the components we spoke of before, glycerine,  
12:52:28 15 PG, sugar, et cetera, that are mixed together and  
12:52:34 16 applied to the base web at the size press. The  
12:52:36 17 area where those materials are put back on is  
12:52:38 18 called the size press. The material is called  
12:52:42 19 size. S-i-z-e.

12:52:44 20 Q. The size is the final stage of the  
12:52:46 21 solubles before they're added back to the base  
12:52:48 22 web; is that correct?

12:52:48 23 A. That's correct.

12:52:52 24 Q. And is it at that point that the  
12:52:56 25 diammonium phosphate is added to the size?

2058459594

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12:52:56 2 MR. NUNLEY: At which point?

12:52:58 3 MR. KILLORY: Right before it's added  
12:53:00 4 to the base web.

12:53:02 5 A. That's what I recall, yes.

12:53:08 6 Q. You've never had any -- have you ever  
12:53:08 7 had any conversation with anyone as to why  
12:53:12 8 diammonium phosphate is added to the finished  
12:53:14 9 product?

12:53:14 10 A. No, I have not.

12:53:18 11 Q. Do you know whether diammonium  
12:53:22 12 phosphate enhances nicotine delivery in any way?

12:53:24 13 A. I have no idea.

12:53:32 14 Q. Is diammonium phosphate similar to  
12:53:36 15 ammonia, as I know ammonia in the common  
12:53:38 16 household sense of the word, ammonia?

12:53:40 17 MR. NUNLEY: Objection to form. How  
12:53:42 18 do you mean, similar to ammonia?

12:53:44 19 Q. Does it have similar chemical  
12:53:44 20 properties, do you know?

12:53:46 21 A. No, it does not.

12:53:46 22 Q. How does it differ?

12:53:50 23 A. Diammonium phosphate is a crystal.  
12:53:54 24 It's composed of ammonia and phosphorous, and  
12:54:00 25 household ammonia is anhydrous ammonia, a small

2058459595

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12:54:02 2 quantity dissolved in water.

12:54:04 3 Q. The ammonium phosphate that's in  
12:54:06 4 crystal form, is that dissolved in the size  
12:54:10 5 before it's added back to the base web?

12:54:14 6 A. I don't know what the solubility of  
12:54:16 7 that material is in the size.

12:54:18 8 Q. Is it possible that the diammonium  
12:54:20 9 phosphate is added back in crystal form to the  
12:54:22 10 base web?

12:54:26 11 A. I don't know what form it's added  
12:54:26 12 back in.

12:54:28 13 Q. In your experience, your six years at  
12:54:30 14 Park 500, you didn't come to have any knowledge  
12:54:32 15 as to what form the diammonium phosphate was  
12:54:34 16 added to the base web?

12:54:40 17 A. I might have known 15 years ago. I  
12:54:40 18 don't remember what we did here today.

12:54:40 19 Q. Do you know if there's any taste  
12:54:42 20 associated with diammonium phosphate?

12:54:44 21 A. No, I don't know.

12:54:50 22 Q. Do you know what urea is in the  
12:54:52 23 context of the RL production process?

12:54:54 24 MR. NUNLEY: You mean, again, as a  
12:54:54 25 chemical?

2058459596



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12:54:56 2 MR. KILLORY: That's right.

12:54:58 3 A. Yes, urea is a chemical.

12:55:00 4 Q. Is urea added? How is urea used in  
12:55:02 5 the RL process, if at all?

12:55:10 6 A. In the '70s we used urea in the  
12:55:10 7 size.

12:55:14 8 Q. Is urea a chemical that's part of the  
12:55:16 9 ammonia family?

12:55:20 10 A. I don't know.

12:55:24 11 Q. When you were at Park 500, was urea  
12:55:24 12 still being used?

12:55:26 13 A. Yes, it was.

12:55:28 14 Q. Was it discontinued, to your  
12:55:28 15 knowledge?

12:55:32 16 A. I have no idea.

12:55:36 17 Q. Do you know whether there's any  
12:55:38 18 flavor associated with urea?

12:55:42 19 A. No, I do not.

12:55:44 20 Q. Do you know whether urea in any way  
12:55:46 21 enhances nicotine delivery?

12:55:48 22 A. No, I do not.

12:55:52 23 Q. Do you know whether Philip Morris  
12:55:56 24 ever switched from using dry flavors to liquid  
12:56:00 25 flavors at the Park 500 facility?

MANHATTAN REPORTING CORP.

2058459597

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12:56:04 2 A. Yes, they did.

12:56:04 3 Q. And when did they do that?

12:56:10 4 A. I don't recall the date when they did  
12:56:10 5 that.

12:56:10 6 Q. Do you know approximately?

12:56:12 7 A. It was near the very end of my tenure  
12:56:14 8 at Park 500.

12:56:16 9 Q. So somewhere around 1982?

12:56:16 10 A. Yes.

12:56:20 11 Q. Why was there a switch from dry  
12:56:22 12 flavors to liquid flavors?

12:56:22 13 A. I have no idea.

12:56:26 14 Q. You never had any conversations on  
12:56:26 15 that subject?

12:56:28 16 A. No, I did not.

12:56:30 17 Q. Did you ever hear a reference to  
12:56:32 18 Takasago liquid flavors?

12:56:34 19 A. No, I did not.

12:56:36 20 Q. You're smiling. Why? Is there a  
12:56:38 21 reason?

12:56:38 22 A. *Takasago* I never heard that term before.

12:56:44 23 Q. In your experience at Park 500, were  
12:56:46 24 there any problems with dry flavors?

12:56:48 25 A. None that I recall, no.

MANHATTAN REPORTING CORP

2058459598

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Q. So you know of no advantages of  
liquid flavors over dry flavors?

A. No.

MR. KILLORY: Let's break for lunch.

THE VIDEO OPERATOR: We're going off  
the record. The time on the screen is 12:57:13.

(Luncheon recess: 12:57 p.m.)

2058459599

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